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IDENTIFICATION AND ACQUISITION OF RAILROAD RIGHTS-OF-WAY

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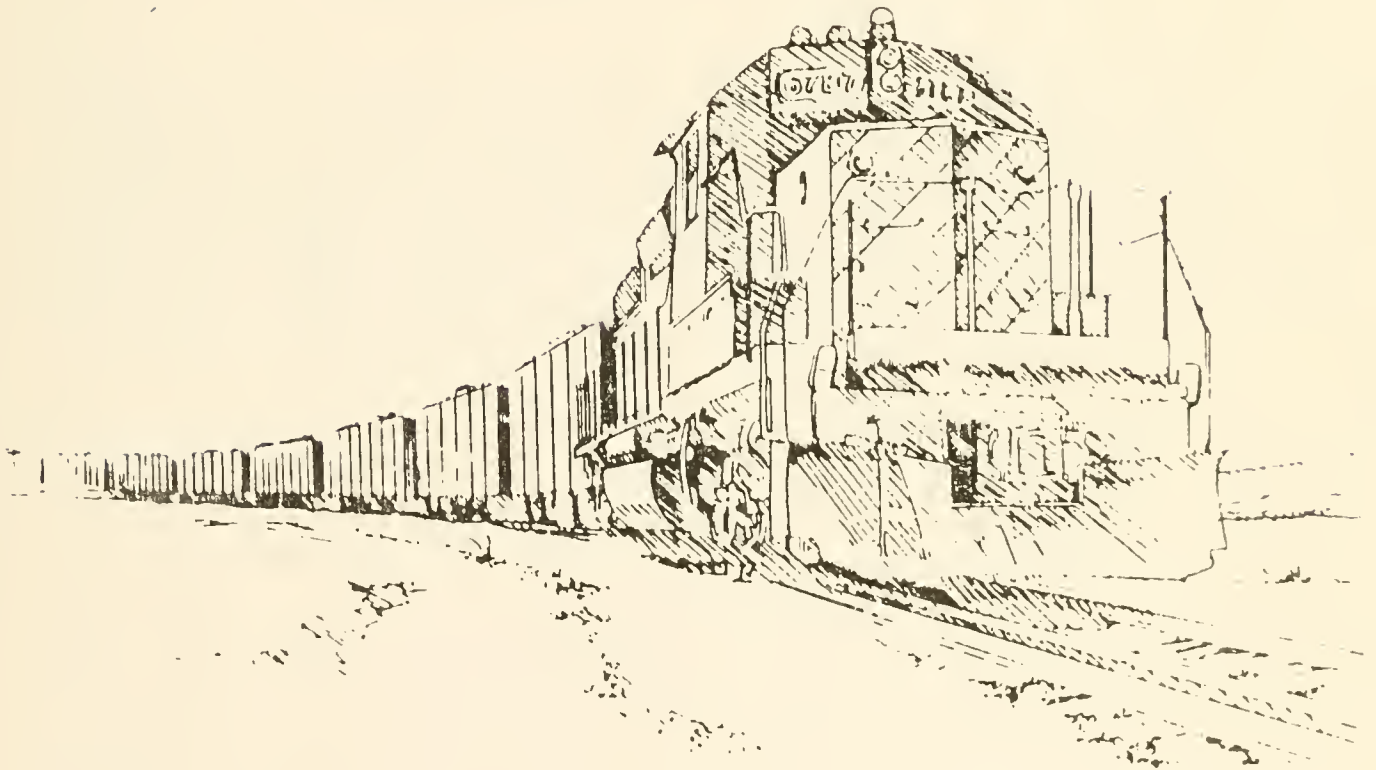
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IDENTIFICATION AND ACQUISITION OF

RAILROAD RIGHTS-OF-WAY

SECTION 60-11-111, M.C.A.

REPORT TO THE FORTY-NINTH LEGISLATURE



Department of Commerce
Transportation Division

January, 1985



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DEPARTMENT OF COMMERCE



TED SCHWINDEN, GOVERNOR

1424 9TH AVENUE

STATE OF MONTANA

(406) 444-3494

HELENA, MONTANA 59620-0401

MEMORANDUM

TO: The 49th Legislature of the State of Montana

FROM: Keith Colbo *Keith Colbo* Director, Department of Commerce

DATE: January 30, 1985

RE: IDENTIFICATION AND ACQUISITION OF RAILROAD
RIGHTS-OF-WAY

Chapter 653 of the 1983 Montana Session Laws requires the Department of Commerce to ".... submit to the 49th Legislature a plan for and the estimated cost of acquisition of those identified abandoned railroad rights-of-way for which acquisition is found to be feasible and desirable." As you know, an adequate rail transportation network is vital to the economy of Montana. This report examines the rail system in the state and evaluates the acquisition potential of rail lines.

/sc

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I

INTRODUCTION



CHAPTER NO. 653

AN ACT REQUIRING IDENTIFICATION OF AND ACQUISITION OF RAILROAD RIGHTS-OF-WAY THAT MAY BE ABANDONED; APPROPRIATING FUNDS; AND PROVIDING AN IMMEDIATE EFFECTIVE DATE.

Be it enacted by the Legislature of the State of Montana:

Section 1. **Purpose.** Identification of those railroad lines proposed for abandonment in the state of Montana that may have potential for local transportation service is necessary to determine the feasibility of acquisition by the state and to allow the state to negotiate for acquisition of those railroad lines.

Section 2. **Authorization.** The department of commerce:

(1) shall identify railroad rights-of-way in this state that may be abandoned and research the feasibility of acquisition by the state of Montana of those rights-of-way that may be abandoned;

(2) shall report periodically to the legislative finance committee, created in 5-12-201, on the progress of the duties imposed upon it pursuant to subsection (1);

(3) may negotiate for and acquire the railroad rights-of-way and attendant facilities identified pursuant to subsection (1) and hold all such acquired lands in trust for transportation purposes; and

(4) upon creation of an appropriate local authority, other than an agency of state government, shall transfer to such local authority all attendant facilities and all rights and responsibility to operate and maintain transportation services over the lands acquired in subsection (1).

Section 3. **Report to legislature.** The department of commerce may research the feasibility and desirability of state acquisition of abandoned railroad rights-of-way and shall submit to the 49th legislature a plan for and the estimated cost of acquisition of those identified abandoned railroad rights-of-way for which acquisition is found to be feasible and desirable.

Section 4. **Appropriation.** There is appropriated to the department of commerce \$64,682 from the general fund for the biennium ending June 30, 1985, for the purposes provided in section 2.

Section 5. **Effective date.** This act is effective on passage and approval.

Approved April 27, 1983.

B. Objective

The objective of this study is to determine the feasibility of acquisition of railroad rights-of-way by the State of Montana. Feasibility is dependent upon the community and local government's willingness to commit to rail service, the ability of the state to purchase the rail line, and the economics of rail service versus other transportation alternatives.

C. Background

Most of Montana's branchline rail system developed near the beginning of this century. The necessity of rail transportation prompted the construction of branchlines. By today's standards, assembling the right-of-way necessary for rail expansion was somewhat simple. Rights-of-way were often assembled rapidly. The railroads were attracted to pockets of population which dotted the vastness of the state. These islands of population were usually the result of homesteading and mining activities.

The legal records of land transactions fifty to one-hundred years old span the spectrum of nonexistence to descriptions of the smallest detail. Some ownership records are clear, but many more are not.

In regard to obtaining rights-of-way the era of railroad expansion in the state appears to have been somewhat casual. Many land owners were interested in enhancing their land values by attracting railroads. Land was a seemingly endless resource and land transactions were often conducted with promises and handshakes and not with detailed legal records.

The rail system functioned well as land ownership patterns changed with the passing of time, and all parties seemed content to leave the land use claims alone as long as the railroad industry continued to service the adjacent

land holdings. Except for an occasional dispute, neither the railroads nor the landowners took action to improve their title position.

Major conflict and dispute did not emerge until the decades of the 1970's and 1980's when railroads elected to pursue wholesale abandonment of the rail system. The casual attitudes regarding ownership of rights-of-way quickly changed. The once cheap and abundant land resource had increased in value. With the passing of generations, the promise and handshake records were left to translation by descendants, and the incomplete legal records were left to the interpretation of every reader.

D. Use Concepts

1. Continued Rail Operation - In today's deregulated environment, railroads are allowed broad discretion to determine if a line should remain in their system. If an operation is unprofitable, it is a matter of time until the railroad seeks its abandonment. Even if a line is profitable, it may be abandoned, as the line's assets may be able to generate a greater profit elsewhere for the railroad.

A private concern will operate a line with one objective in mind: to generate a profit. The motive of a nonprofit public organization could be to operate a line as a public service on a break-even basis. If continued operation offered less public cost than other transportation alternatives and supported the vitality of other sectors of a local economy, then the motive for continued operation would be provided.

If a small operation is able to reduce operating inefficiencies practiced by a large railroad without entirely sacrificing economies of scale, it can succeed. The feasibility of continued operation is dependent upon two major factors: a) the level of present and future

demand for rail service and the dedication to the use of rail service if provided; and b) the financial structure of capital debt to revenue for the short and long term.

2. Rail System Preservation - Land use is intensifying. Land values are generally increasing. Land use control and regulation are becoming more sophisticated. These and other factors lead to a conclusion that assembling a transportation corridor right-of-way will not be as easily accomplished as it was near the turn of the century. If existing but abandoned corridors could be publically preserved with minimum public expense for some yet known future use, the public interest in future state economic development might best be served. Again, feasibility of this concept has two major overriding factors: a) probable cause that future need exists; and b) existence of financial and administrative mechanisms allowing future benefits to exceed present costs.

3. Market Place Exchange - When it can be clearly established that the public sector will see no gain from continued rail operations or railbanking, the property will be disposed of. Without implementation of the Chapter 653 provisions, abandoned rights-of-way will be marketed by the railroad. Past practice shows that the railroads are willing to market only an interest title or quit claim deed. By some standards this title transfer should yield a lower market valuation because of the risks associated with other potential claims to ownership, but the railroads appear to prefer this method to the alternative title warrantee which would require expensive research, title insurance and/or legal action.

For those who purchase interest title from the railroad, a gambler's hand must be played out to improve the title or at a minimum to pay property tax to secure the claim. Those who dispute these railroad claims and

transfers may come forward on a parcel by parcel basis to litigate their claim.

Several group actions have been taken to block sales pending definition of railroad property interest. Two of these groups, The 16 Mile Association and The Central Montana Rail Association (Lavina), have had limited success in negotiating a settlement of railroad interest to adjoining landowners. For the most part, legal actions have become snarled in jurisdictional claims of local district and federal bankruptcy courts with an appeal decision favoring the bankruptcy court from the 7th circuit.

Though speculative, it would be safe to conclude that title and property claim to abandon railroads will continue to be disputed well into the future.

4. Purchase By Other State Agencies - In 1981, several state agencies expressed interest in abandoned rail properties.

- a. The Department of Natural Resources, Facility Siting Bureau, has adopted a policy of encouraging the utility transportation industry to best utilize abandoned railroad rights-of-way. These recommendations come from review of project alignment proposals and are suggestions meant to minimize land use conflict and controversy. As long as abandoned corridor use is not intensified in the interim, this logic is valid. There is no current recommendation from the agency that abandoned corridor use be protected and preserved.
- b. The Department of Fish, Wildlife, and Parks has proceeded with alternate public use evaluation of abandoned rail property on a line by line basis. Throughout each abandonment procedure, they assess the potential use of these properties for public recreation projects. Decisions to proceed with or

reject potential projects are made internally and based on a wide variety of criteria, including legislative restriction and available funding. The agency has no current position on state preservation of transportation corridors.

- c. The Department of Highways has extensively followed up on Milwaukee Railroad abandonments. They have negotiated purchases of railroad interest in former highway crossings and other shared rights-of-way. In addition, the Department purchased all of the adjacent properties which will be useful in the immediate future for highway reconstruction.

The Department has no known policy toward transportation corridor preservation of abandoned lands.

E. Methodologies for Rail Service Preservation

The following two methodologies are suggested forms of abandoned railroad preservation technique. Following lengthy discussions with involved public and representative officials, these methodology scenarios seem to best accommodate the concerns and desires of the respondents.

1. Acquisition and Operation - Chapter 653 authorizes state purchase as long as full operating authority and responsibility is turned over to "an appropriate local authority, other than an agency of state government." State ownership of right-of-way provides stability for future projection, limited financial advantage to a new operator, enhances the new operation's standing before the Interstate Commerce Commission and improves the negotiation position for connection agreements.

Operation by a local authority provides a mechanism for local involvement to stimulate utilization of the line. Local authorities bring new motivation to the rail

operation to restore a service orientation and this builds utilization. Authorities have the flexibility to vary service and can fully utilize the efficiencies of short-line railroading. Trade labor exchange, reduced track and equipment standards, competitive contracting for maintenance of way work, and lower administrative overhead are but a few shortline advantages.

The Local Rail Authority Shortline can operate as a nonprofit corporation by putting all revenues back into the operation and maintenance of the railroad.

2. Acquisition for Railbanking - It has been argued that property ownership brings large and expensive administrative obligations. Weed control, fence maintenance, personal liability, taxes, and accommodation of neighbors are examples. State ownership and holding of abandoned rail property would be no different in impact.

Since the principal object of railbanking is to protect right-of-way corridors for future use, the only ownership right that is essential is an easement for crossing. The remaining title and obligation could be passed on to another party for interim property utilization. The methodology could be two-fold. The state could attempt to purchase an easement right from a recorded owner. Establishing an interest may require some title research and insurance. The second option would be for the state to buy out the railroad's interest, improve title with research and insurance, and reserve an easement while disposing of the remaining interest in sale, possibly to adjoining landholders. This alone may not establish corridor preservation in cases where the railroad interest reverts upon abandonment. In these cases further negotiation for easement would be required.

II

Initial Rail Line Analysis

Task 1: Revise Rail Policies and Objectives in Accordance With
Chapter 653.

Suggested New and Revised Policies and Objectives -

Modifications of and additions to the existing policies and objectives are presented in Table 1 (see Policy 4 and Objective 13) in small type.

TABLE 1
RAIL POLICIES AND OBJECTIVES
IN MONTANA

POLICIES

1. Continue present reliance upon privately-owned railroads in providing essential intra and interstate rail services.
2. Recognize and accept the principle that individual lines must earn sufficient revenues to cover operating expenses and provide the owning railroad with a reasonable return on the investment.
3. Coordinate rail planning and implementation activities with state and local land use policies and social, economic, environmental and energy use objectives.
4. Encourage railroad efforts to improve service to Montana shippers, including, when appropriate, the ownership of railroad rights-of-way and attendant facilities by the State and the operation of these by a local authority or shortline operator.
5. Preserve rail access to natural and economic resources having expansion or development potential.
6. Utilize abandoned rail rights-of-way for public uses wherever feasible and practical.

OBJECTIVES

1. Develop the state rail plan as a component of an overall intermodal transportation plan. Evaluate the rail system as a portion of the state's total transportation system.
2. Institute a cooperative, comprehensive and continuing rail planning program which includes participation from state and local governments, the rail industry, and provides for public input.
3. Encourage modal (or intermodal) usage which provides the lowest total transport cost.
4. Identify and evaluate user needs and revenue generation required for the economic operation of specific light density lines.
5. Quantify the economic impacts of proposed rail system adjustments (abandonments).

6. Assess and mitigate, if possible, any environmental and social impacts of rail system adjustments.
7. Take steps necessary to maintain in or return to the private sector these rail lines found to be economically viable.
8. Evaluate alternatives to rail system adjustments, and arrange transportation solutions for shippers on lines not found to be viable.
9. Coordinate funding from governmental and private sources for rail service continuation, rehabilitation, acquisition, substitute service, or new construction projects selected as a consequence of state rail planning.
10. Encourage the continued use of rail passenger service, where provided. Promote expanded passenger service only where the potential traffic is large enough to substantially sustain the service provided.
11. Review state statutes and local regulations to eliminate undue impediments to efficient railroad operations.
12. Promote or sponsor changes and additions (as necessary) to existing federal and state legislation to develop a sound, efficient program of state rail planning and local service assistance.
13. Implement a program to identify and acquire certain railroad rights-of-way that have been or may be abandoned. Transfer to a local authority or shortline operator all attendant facilities and all rights and responsibilities to operate and maintain transportation services over those lands acquired.

Task 2. Identification of Lines That May be Abandoned

1. System Diagram Designations. Lines in Categories I, II, or III. (See Figure 1)

Category I

1. Drummond/Phillipsburg
2. Lewistown/Heath
3. Mission/Wilsall
4. Moccasin/Lewistown
5. Sappington/Harrison
6. Whitehall/Butte

Category III

7. Butte, Anaconda, and Pacific Railroad
8. Manhattan/Anceney
9. Newlon Junction Richey

2. Light traffic density lines not in Categories I, II, or III (see Figure 2).

1. Bainville/Opheim
2. Big Sandy/Pacific Junction
3. Brazil Creek Spur
4. Butte/Garrison
5. Butte/Newcomb
6. Cecil Junction/Cecil
7. Columbia Falls/Somers

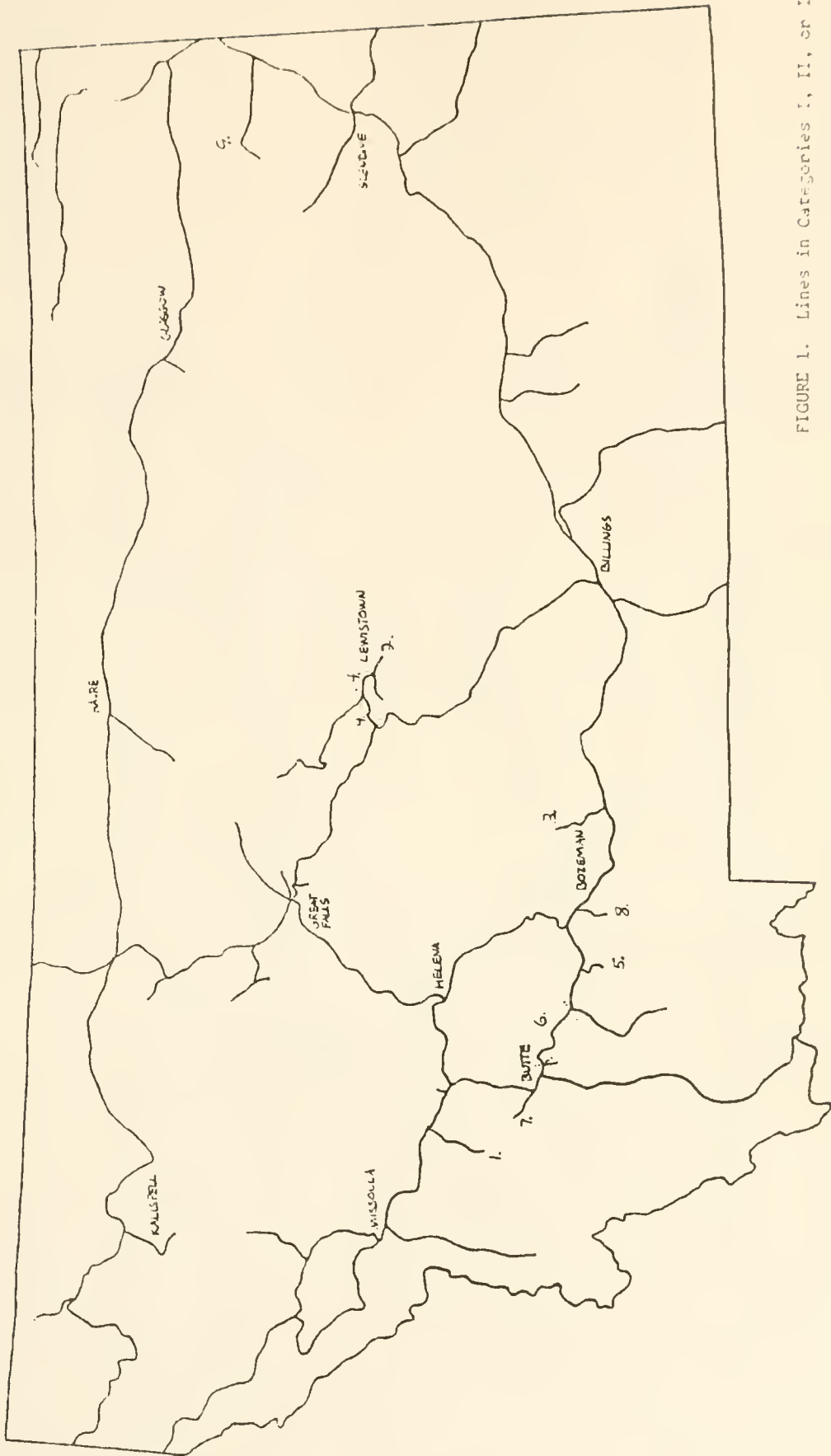


FIGURE 1. Lines in Categories I, II, or III.

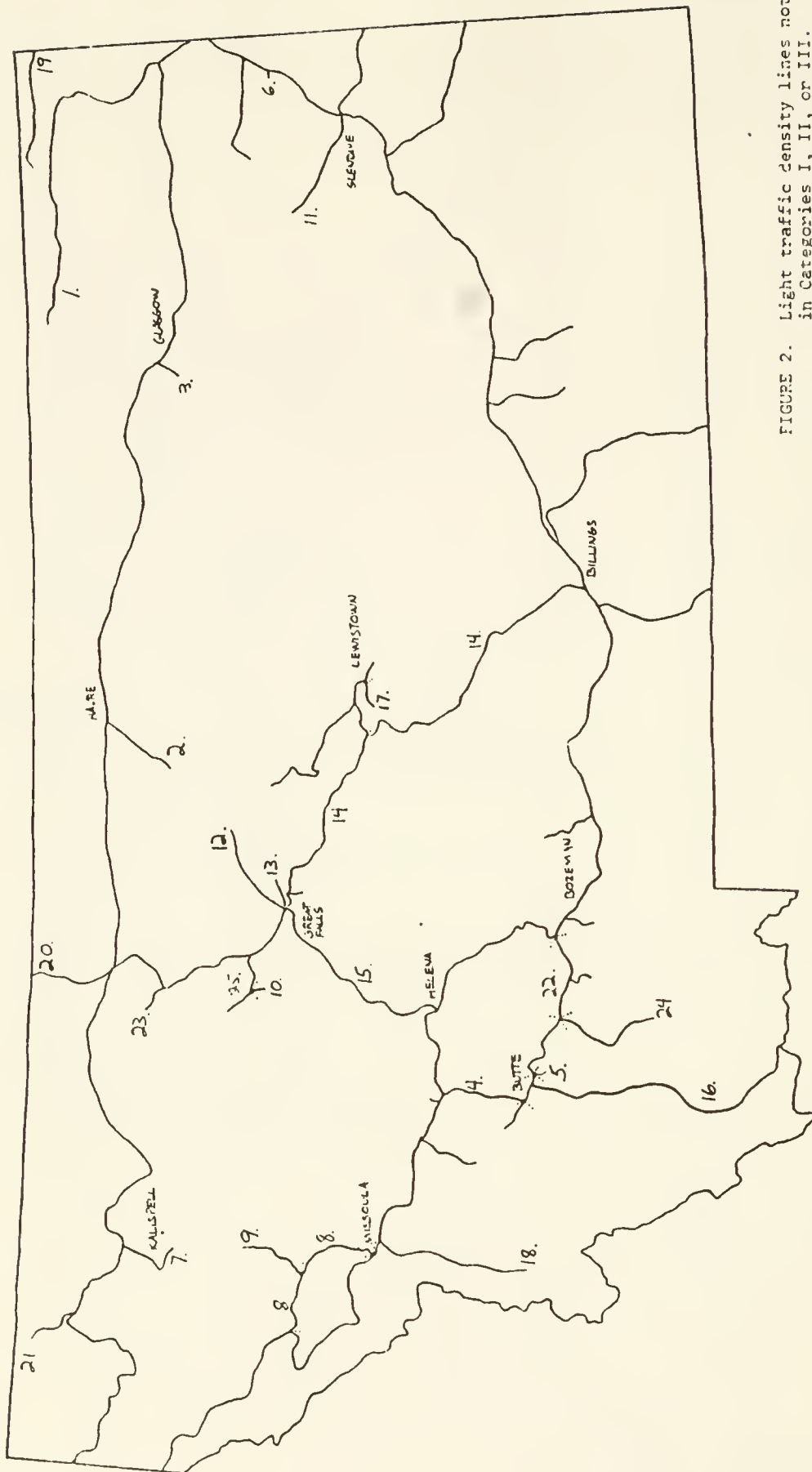


FIGURE 2. Light traffic density lines not in Categories I, II, or III.

8. DeSmet/Paradise
9. Dixon/Polson
10. Fairfield/Eastham Junction
11. Glendive/Circle
12. Great Falls/Fort Benton
13. Great Falls/Loy Spur
14. Great Falls/Mossmain
15. Helena/Great Falls
16. Idaho State Line/Butte
17. Lewistown/Moore
18. Missoula/Darby
19. North Dakota State Line/Whitehall
20. Shelby/Sweet Grass
21. Stryker/Eureka
22. Three Forks/Whitehall
23. Valier Junction/Valier
24. Whitehall/Alder
25. Power/Choteau

Task 3. Identification of Lines That Have Been Abandoned and
are Eligible for Federal Assistance (see Figure 3).

1. Big Sandy/Fort Benton
2. Choteau/Agawam
3. Choteau/Pendroy
4. Circle/Brockway
5. Dorsey/White Sulphur Springs
6. Elephant Spur

7. Fromberg/Bridger
8. Great Falls/Fairfield
9. Great Falls/Geraldine
10. Glasgow/Glasgow Air Force Base
11. Haugan/Idaho State Line
12. Hesper/Rapelje
13. Lewistown/Winifred
14. Livingston/Brisbin
15. Montana City/Basin
16. Moore/Harlowton
17. North Dakota State Line/Carlyle
18. Ringling/Dorsey
19. Saco/Hogeland
20. Silesa/Red Lodge
21. St. Regis/Haugan
22. Terry/Idaho State Line
23. Yellowstone Branch
24. Phosphate/M.P.4
25. Lavin Spur

Task 4. Define the Legal Status of a Local Authority

The creation of a local authority to assume all rights and responsibilities of the operation of a railroad has no clear legal precedent in Montana. At present, a local authority could take the form of a private business venture or a non-profit organization. Chapter 653 states that the local authority cannot be an agency of state government; but neither

does it expressly allow or prohibit local government to be the local authority or act as a member of the local authority. Montana statute remains silent on this issue. According to Montana law, the activities of an organization enjoy the presumption of legality unless specifically prohibited by statute. In sum, it is clear that a corporation or a non-profit organization could legally assume the maintenance and operation of railways that have been acquired by the State, but it is not clear what the involvement of local government could be. A definition and an evaluation of the legal limitations of a local authority must be established before agreements (contracts between the state and the local authority) can be made.

The definition and evaluation of the legal limitations of local government involvement can come from three sources: (1) legislation, (2) an opinion from the Attorney General, or (3) a court decision. Of the three, legislation offers the most straightforward approach. Legislation should eliminate the ambiguities associated with the role of local government. Even an unsuccessful attempt to pass a particular bill will help define legal parameters as an unsuccessful attempt implicitly denies the legality of an action. A written opinion from the Attorney General can help guide the decision making as to the legality of an action. The opinion does not change the status quo but defines it. If a questionable action is taken by local government, the legality of the action can be challenged in the courts. The courts can also answer questions pertaining to the constitutionality of a given statute.

If it becomes apparent that local government may become involved in the operation of a shortline railroad, legislation allowing such an arrangement should be sought as soon as possible. In lieu of this kind of enabling legislation, an opinion from the Attorney General should be obtained. A challenge in the courts should be avoided as this may delay the implementation of a desirable and workable solution to retain or restore service on a branchline the railroad wishes to or has abandoned.

Task 5. Rank the Lines for Study

A. Indicators

Indicators were developed to aid the analyst in the initial analysis of rail lines. It was hoped that these indicators could be quantified and used in the decision matrix for comparative purposes. This comparison would aid the analyst to rank lines for further study.

These efforts were at best moderately successful. After the data was accumulated, it could be seen that there were many irregularities in the data and this precluded the use of the indicators as a solid measure of a line's feasibility and desirability for acquisition. Below is a list of these indicators and the problems associated with using them as solid quantitative measures for comparative purposes.

* Average Daily Traffic (ADT) increase and percent trucks traffic increase.

The information needed to employ ADT increase and percent trucks traffic increase to measure impacts on highways is not complete. However, ADT information has been utilized where possible.

- * net profit/mile
- * revenue/mile
- * revenue/car
- * net profit/car

Information supplied in the 1979-82 rail plans was used to produce these figures. Unfortunately, an analysis of these figures revealed a great deal of variance and inconsistency. The standard deviations for these indicators were so large as to greatly diminish their value for comparative purposes. The analyst must use these indicators with a great deal of discretion.

- * net profit/car - cars/mile/year

The figures available from the 1982 rail plan produced a positive correlation coefficient of 0.62. This demonstrates that the analyst can use cars/mile as a moderately strong indicator, i.e., the greater the number of cars per mile, the more likely the line will produce a profit.

The value of these indicators to determine the feasibility or desirability of the acquisition of a line by the state is low to moderate. They must be used with discretion. To the extent possible, these indicators have been used in the decision matrix and the ranking process.

1982 RAIL PLAN (1980 FIGURES)

1	BANVILLE / OPHEIM	farm
2		semi
3	BIG SANDY / FT. BENTON	farm
4	BRAZIL CREEK SPUR	semi
5	BUTTE / WHITEHALL	farm
6	CIRCLE / BROCKWAY	semi
7		farm
8	COLUMBIA FALLS / SOMERS	semi
9	DIXON / POLSON	farm
10	DRUMMOND / PHILIPSBURG	semi
11	DURANT / BROWN	farm
12	FROMBERG / BRIDGER	semi
13		farm
14	GLENDIVE / CIRCLE	semi
15	LAVIN SPUR	farm
16	MAUHATTAN / AUKENEY	semi
17	MISSION / WILSALL	farm
18		semi
19	MONTANA CITY / BASIN	farm
20	NEWELON JCT. / RICHEY	semi
21		farm
22	ND STATE LINE / WHITEHALL	semi
23		farm
24	PHOSPHATE SPUR	semi
25	STRYKER / EUREKA	farm
26	THREE FORKS / WHITEHALL	semi
27	VALIER JCT / VALIER	farm
28		semi
29		farm
30		semi

ADT
increase

% truck
increase

net profit
/mile

revenue
/mile

revenue
/car

net profit
/car

cars
/mile

11
20

1
04
13
6

0.14
0.26
4
2

1
1
2
3
2
4
5

14

2
5

7

?
?

4.75
6
7.5

\$ 6873

5290
43935
- 5755
- 10868
- 6245
1349

- 2510
5905
3785
16882

- 2890
12679
50857

\$ 52523
3775
8391
36775
116224
45779
1647
9687
25721
16422
34685
14403
28659
45937
136250
97838
116671

\$ 2665
2053
1783
3749
818
1601
503
1343
1825
2151
1961
1336
3341
3755
1530
2033
2643

348

603
3537
- 204
- 3323
- 1731
98

- 328
333
442
1380

- 32
263
1152

20

2
5
10
142
28
3
7
14
15
8
18
11
9
12

628
89
48
44

[illegible]

Year of Data	ADT increase	% truck increase	net profit /mile	revenue /mile	revenue / car	net profit /car	cars /mile	cars /mile	8	9	10
1980 RAIL PLAN											
BEACH RD to CARLYLE											
POWER / PENDROY											
1979			5573	11617	3615	1734	10	(1979)	(1979)		
1978			5071	12464	918	373	13	(1979)	(1979)		
1978			4345	9290	2152	1012	9	(1979)	(1979)		
1979			2382	13115	1829	332	7	(1979)	(1979)		
LIVINGSTON / BRIGBIE											
1978			15800	5900	1344	5448	79	(1979)	(1979)		
1979			10131	50031	1432	290	3	(1979)	(1979)		
1979			1052	31271	1886	65	35	(1979)	(1979)		
1979			5933	14805	895	358	16	(1979)	(1979)		
MISSOULA / DABBY											
TOTAL			30025	142453	14070	9030					
X			3753	18306	1758	1128					
SSD			35723025	585585124	1167980	23981502					
S ²			51031800	226512160	166855	3926368					
S			7143	15050	1292	1851					

100% RAIL PLAN

Year of Data	1979 RAIL PLAN	ADT Increase	% track Increase	net profit /mile	revenue /mile	revenue /car	net profit /car	cars/mile		
1979	AGAWAM / GT. FALLS			\$ - 10394	\$ 29083	\$ 1567	\$ - 580	19		
1978	GREAT FALLS / LEWISTOWN			2141	6507	1781	586	52		
1978	LEWISTOWN / WINFRED			2473	21478	796	91	9		
1978	LEWISTOWN / HEATH			1455	3796	710	272	27		
1977	MOOREHEAD / LEWISTOWN			1918	5370	1531	56	1		
1977	MOOREHEAD / SAKO			535	806	1465	972	3		
1977	RED LODGE / SILESIA			1112	5221	153	32	1		
1976	RIVINGTON / WHITE SULPH SPRS.			2389	7590	356	112	34		
1976	GLASGOW / GLASGOW AFB.							1		
1977	HAVEN / WALLACE ID.									
	TOTAL			- 8850	79851	8365	- 1151			
	X			- 1106	9981	1045	- 143			
	SSD			119525308	681205741	2667255	1535155			
	S ²			16903701	97315248	362465	214307			
	S			4111	9865	618	968			

B. Light density lines not in Categories I, II, or III and not requiring further analysis.

In January of 1984, the Transportation Division constructed a map projecting how Montana's rail system could look in five to ten years. This projection assumes a laissez-faire attitude on the part of the state, meaning that the state would take no direct action to rail bank, rehabilitate, construct or own or operate any rail lines. For the purpose of this study, those lines which are not expected to be in danger of abandonment in five or ten years do not require further study. Light density lines not in categories I, II, or III and are not expected to be endangered by the possibility of abandonment are listed below.

Butte/Garrison

Fairfield/Eastham Junction

Great Falls/Fort Benton

Great Falls/Mossmain

Helena/Great Falls

Idaho State Line/Butte

Shelby/Sweet Grass

C. Abandoned lines not requiring further analysis

There are a number of lines that have been abandoned since October 1, 1978, and are eligible for federal financial assistance. However, the trackage on these former lines has been or is in the process of being removed for its salvage value. This condition precludes any reasonable expectation that these lines

could be rebuilt into viable rail transportation routes, especially if the right-of-way has been sold or has reverted to a former landowner. The lines whose circumstances match the above description and do not require further analysis are listed below.

Choteau/Agawam

Dorsey/White Sulphur Springs

Elephant Spur

Great Falls/Fairfield

Great Falls/Geraldine

Glasgow/Glasgow Air Force Base

Haugan/Idaho State Line

Lewistown/Winifred

Livingston/Brisbin

Montana City/Basin

Moore/Harlowton

North Dakota State Line/Carlyle

Ringling/Dorsey

Silesia/Red Lodge

St. Regis/Haugan

Terry/Idaho State Line

Yellowstone Branch

D. Decision Matrix Criteria - Definitions and Assumptions

1. Position in Abandonment Timetable

* high priority

- recently abandoned
- Category III
- * medium priority
 - Category I, II
- * low priority
 - Category IV, V

2. Present Revenue Potential

If the line is unprofitable, it is in danger of being considered for abandonment and should be given a high priority.

- * high priority
 - the line is operating at a loss
- * medium priority
 - the line breaks even or produces a small profit
- * low priority
 - the line was profitable several years in a row

3. Future Revenue Potential

If the line is expected to be profitable, it should remain in Montana's rail system.

- * high priority
 - the line is expected to produce profits in successive years
- * medium priority
 - the line is expected to break even or produce a small profit
- * low priority

- the line is expected to operate at a loss

4. Probable Highway System Impacts

- * high priority

- the abandonment is expected to significantly increase truck traffic and the roads in question are not designed or able to withstand additional truck traffic.
- Average Daily Traffic increase is expected to be greater than 6.
- Cost of rebuilding or upgrading highways exceeds that of rail line acquisition/rehabilitation/new construction/operation.
- Line in question only viable means to ship the commodity; there is no mainline or branchline nearby to accommodate shipper's needs.

- * medium priority

- Moderate highway impacts
- Average Daily Traffic increase is expected to be 2-6.

- * low priority

- little or negligible impacts
- Average Daily Traffic increase is expected to be less than 2.

5. Expression of Community Interest

- * high priority

- much expression

- * medium priority

- some expression
- * low priority
- little expression

6. Current status of Lines in the Rail Plan

- * high priority
- benefit/cost ratio greater than 1.
- rail plan recommends acquisition or rehabilitation
- * medium priority
- benefit/cost ratio .5-1
- * low priority
- benefit cost ratio greater than .5.
- rail plan does not recommend acquisition or rehabilitation

7. Other site-specific criteria

Narrative is provided to describe site-specific criteria.

F. Initial Analysis Results

<u>Rail Line Name</u>	<u>Score</u>	<u>Rating</u>
Moccasin/Lewistown/Geraldine Complex	86	H
Geraldine/Spring Creek Junction	86	H
Bainville/Opheim	78	H
Missoula/Darby	64	M
Whitehall/Butte	59	M
Newlon Junction/Richey	55	M

Dixon/Polson	55	M
Saco/Hogeland	54	M
Phosphate Spur	51	M
North Dakota State Line/Whitetail	51	M
Whitehall/Alder	51	M
Brazil Creek Spur	50	M
Manhattan/Anceney	48	L
Lewistown/Heath	48	L
Glendive/Circle	48	L
Drummond/Philipsburg	47	L
Stryker/Eureka	47	L
Columbia Falls/Somers	47	L
Mission/Wilsall	45	L
Elephant Spur	45	L
Sappington/Harrison	45	L
Lavin Spur	45	L
Valier Junction/Valier	44	L
Fromberg/Bridger	42	L
Hesper/Rapelje	42	L
Choteau/Pendroy	42	L
Circle/Brockway	42	L
Big Sandy/Fort Benton	42	L
Three Forks/Whitehall	40	L
Durant/Brown	40	L

F. Lines that will require an additional analysis

1. Light Traffic Density Lines

Butte/Newcomb

Cecil Junction/Cecil

Loy Spur 1/

DeSmet/Paradise

1/ This short branchline (12.8 miles) is used to carry ordnance and general commodities to Malstrom Air Force Base. It is assumed that all matters concerning a possible abandonment by the Burlington Northern would be worked out between the railroad and the U.S. Air Force.

G. Initial analysis using the decision matrix.

Note: These analyses were conducted in March of 1984 and reflect the conditions at that time.

RAIL LINE NAME Moccasin-Lewistown-Geraldine Complex

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1	1		1	2	1	2
M			1				
L							
NA							

1. Spring Creek Junction - Geraldine segment is in Category III. Moccasin-Lewistown-Heath segment is in Category I. The Department is concerned that the entire complex could be abandoned in five to ten years.
2. These lines have operated at a break-even or a slightly profitable level for the last several years.
3. Future revenue potential is moderate.
4. Significant and destructive highway impacts are expected if the complex is abandoned. Load limits have already been imposed in some areas as a result of the embargo from Spring Creek to Geraldine.
5. Community interest in the area has been very high.
6. Rehabilitation of Denton to Geraldine and new construction of Dover to Arrow Creek b/c = 1.11; Moore to Sipple new construction and rehabilitation of Lewistown to Moore b/c = 1.38.
7. This line is important to the state rail network. It serves a productive grain growing area. Shippers will have to pay higher transportation costs if the complex is abandoned. The highways are not constructed to absorb the impact of the increased number of grain trucks. Several small towns on this branchline depend on rail service for their economic health and possibly their survival.

SCORE 86

RATING H

INITIAL ANALYSIS

RAIL LINE NAME Geraldine-Spring Creek Junction

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1			1	3	1	1
M			1				
L							
NA		X					

1. Category III
2. NA - line is presently embargoed
3. Potential is moderate - traffic histories of 1,058 cars in 1981 and 1,221 cars in 1982 indicate line can be profitable.
4. Significant highway impact - load limits have been imposed.
5. Community interest very high
6. Rehabilitation of Denton to Geraldine and new construction of Dover to Arrow Creek b/c = 1.11.
7. This line operated at a profit prior to the embargo.

SCORE 86RATING H

INITIAL ANALYSIS

RAIL LINE NAME Bainville-Opheim

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H		1		1	2	1	1
M			1				
L	1						
NA							

1. Category IV - not identified for abandonment.
2. BN stated this line operated at a deficit in 1980 but the rail plan states that at a "normal return of revenue per car", the line would have produced a profit. Normal return of revenue in this case = \$2,600 - \$3,000/car/year.
3. Future potential appears to be fair.
4. FAP 32 will show an 11% increase in truck traffic if line is abandoned. Rail plan states overall increase to be low.
5. A great deal of interest has been expressed.
6. Rehab b/c greater than 1.0
7. Line serves a large area. Alternative transportation is not plentiful.

SCORE 78RATING H

RAIL LINE NAME Missoula-Darby

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H							
		1		1	1		
M			1				1
L	1					1	
NA							

1. Category V.
2. Line operated at a loss in 1979.
3. Future revenue potential low to moderate, depending on the market for wood products.
4. Moderate to significant highway impacts. Volumes on 93 already high.
5. High interest.
6. Retain rail service b/c ratio = .16.
7. 1980 rail plan states line does have economic viability but this is contingent upon the improvement of the wood products market.

SCORE 64RATING M

INITIAL ANALYSIS

RAIL LINE NAME Whitehall-Butte

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H		1			1		1
M	1						
L			1	1		1	
NA							

1. Category I.
2. This route does not originate or terminate any traffic. It is used mainly for hauling oversized loads.
3. The future revenue potential is not expected to change.
4. Little highway impact.
5. High expression.
6. No b/c analysis, rail plan recommends low ranking.
7. If the mines at Butte resume operations, they would require adequate rail transportation. This line would serve Butte in that capacity.

SCORE 59

RATING M

INITIAL ANALYSIS

RAIL LINE NAME Newlon Junction - Richey

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H							1
M	1	1	1	1			
L					1	1	
NA							

1. Category I.
2. This line produced a small profit in 1980.
3. This line is expected to produce a small profit in future years.
4. Moderate highway impacts - 5 truck trips/day, some major work needed on FAP 25 to Wolf Point.
5. Little expression (?).
6. Rehabilitation b/c ratio = .38.
7. Productive grain area. Shippers would experience higher costs from an abandonment.

SCORE 55RATING M

INITIAL ANALYSIS

RAIL LINE NAME Dixon-Polson

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H		1					1
M			1	1			
L	1				1	1	
NA							

- 1. Not potentially subject to abandonment.
- 2. Line operated at a loss in 1980.
- 3. Line may be profitable in the future if wood products market improves.
- 4. Moderate highway system impacts.
- 5. Little expression
- 6. Rehabilitation b/c = .36
- 7. There are 13 shippers on this line and the line could be profitable if the economy improves.

SCORE 55

RATING M

RAIL LINE NAME Saco-Hogeland

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1				1		
M							
L			1	1		1	
NA		X					

1. Recently abandoned (8/22/83).
2. NA
3. This line produced a small profit when in operation but the 1979 rail plan states it does not have long range viability.
4. Highway impacts low.
5. Moderate to high expression of interest.
6. $b/c = .34$ to continue service.

SCORE 54RATING M

RAIL LINE NAME Phosphate Spur

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H			1			1	
M	1						
L		1		1	1		1
NA							

1. Category I.
2. Line at milepost 1 produces 2200 cars/year
3. This production is expected to continue.
4. Line would most likely be abandoned only if the mine closed. Hence, truck traffic on highways would be negligible.
5. The Cominco Company has indicated that rail service to the mine at the end of the line is essential and that the company would be willing to own and operate the line in order to prevent its abandonment.
6. Acquisition $b/c = 4.35$ because of high traffic levels.
7. The mine at the end of the line is expected to open in about 5 years, but state acquisition of the line for rail banking may not be necessary as Cominco has expressed a willingness to take the steps necessary to ensure the line's existence.

SCORE 51RATING M

INITIAL ANALYSIS

RAIL LINE NAME North Dakota State Line-Whitetail

CRITERION								
PRIORITY		1	2	3	4	5	6	7
	H							
	M						1	
	L	1						1
	NA							

1. Has not been identified for abandonment - Category V.
2. Present potential is moderate.
3. Future potential is moderate.
4. ADT increase = 4 grain and 4 farm trucks but this would be spread among 4 or 5 highways.
5. Moderate expression.
6. Rehabilitation b/c greater than 1 but acquisition is not recommended by the 1982 rail plan.
7. Provides some competition with BN. Significant impact on rail users if abandoned. However, the line is profitable and an abandonment application is not expected in the near future.

SCORE 51RATING L

INITIAL ANALYSIS

RAIL LINE NAME Whitehall-Alder

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H							
M		1	1	1	1	1	
L	1						1
NA							

1. Category V
2. Revenues increased from 1979-1980.
3. Future revenues expected to be moderate.
4. 1980 rail plan predicts moderate highway impacts.
5. Moderate expression.
6. Rail plan recognizes economic importance of the mine's operation.
7. Line is in Category V, is economically viable and the railroad shows no intentions of abandonment.

SCORE 51

RATING L

RAIL LINE NAME Brazil Creek Spur

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H							
M	1		1			1	1
L				1	1		
NA		X					

1. Category I.
2. Present revenue potential non-existent. Bentonite mine is currently inactive.
3. Future potential is moderate.
4. Improved road services mine. No highway impacts are expected unless mine reopens.
5. Expression of interest primarily confined to the Federal Bentonite Co.
6. b/c ratio .98 for acquisition.
7. If mine is reopened without rail service, ore trucks would travel on public roads. 1982 rail plan states that acquisition would cost less than the road improvements.

SCORE 50RATING M

INITIAL ANALYSIS

RAIL LINE NAME Manhattan-Anceney

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H						1	
M	1	1	1				
L				1	1		2
NA							

1. Category I.
2. Use on the line has declined since 1976 but is still being used.
3. Future revenue potential is moderate if the line terminates at Amsterdam.
4. ADT increase low - 1 truck/day
5. Little expression.
6. Rehabilitation b/c = .68, acquisition/rehabilitation = .64, partial abandonment and rehabilitation b/c = 3.31.
7. The major shipper at Amsterdam has indicated that it no longer intends to ship by rail.

SCORE 48

RATING L

RAIL LINE NAME Lewistown-Heath

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H			1			1	
M	1						
L		1		1	1		2
NA							

1. Category I.
2. Gypsum board plant in operation but does not use rail line.
3. Gypsum board plant is expected to continue operation.
4. Highway impacts not significant
5. Title opposition by the community.
6. Rehab to b/c = 1.01 (Class 1)
7. The only justification for state involvement in this line would be to ensure the continued operation of the gypsum plant. It appears, however, that the plant will remain in operation whether rail service exists or not.

SCORE 48RATING L

INITIAL ANALYSIS

RAIL LINE NAME Glendive-Circle

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H			1				
M		1		1		1	
L	1				1		2
NA							

1. Light density line
2. This line operated at a profit in 1980.
3. A new grain subterminal at Circle is expected to increase traffic on the line.
4. Moderate highway impact.
5. Low expression (?).
6. Rehabilitation b/c = .93.
7. Because of a new grain facility at Circle and the potential for coal mining in the area, this line is not expected to require assistance in the near future.

SCORE 48

RATING L

INITIAL ANALYSIS

RAIL LINE NAME Drummond-Philipsburg

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H					1		
M	1		1				
L				1		1	2
NA		X					

1. Category I.
2. This line is currently not in use.
3. The major shipper on the line - a woodyard - has closed, but mining potential in the area could raise rail demand to 500 cars/year. Even so, this is not expected to happen in the next five years.
4. No new traffic on highways if line is abandoned.
5. High concern.
6. Acquisition $b/c = .32$.
7. Former shippers either closed, bankrupt or presently use trucks. Future activity on the line is very uncertain.

SCORE 47RANKING L

RAIL LINE NAME Stryker-Eureka

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H				1			
M		1	1				
L	1				1	1	1
NA							

1. Not in immediate danger of abandonment.
2. The line is providing some profit to the BN.
3. This profit is expected to continue.
4. ADT increase of 14 trucks (7.5% truck increase) on FAP 5.
5. Little expression.
6. No b/c provided as the line is economically viable.
7. This line is economically important to Montana, but abandonment is not anticipated in the next 5-10 years.

SCORE 47

RATING L

RAIL LINE NAME Columbia Falls-Somers

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H			1	1			
M							
L	1	1			1	1	1
NA							

1. No danger of immediate abandonment - Category V.
2. Present revenue potential is high.
3. Future revenue potential is high.
4. High highway impact if line is abandoned, assuming BN tie plant at Somers continues to operate.
5. Little expression.
6. Rail plan recommends no state intervention.
7. The only segment of this line in need of rehabilitation (Kalispell to Somers) would receive a low b/c ratio, as revenues to the railroad would be about the same as the cost of operation.

SCORE 47RATING L

INITIAL ANALYSIS

RAIL LINE NAME Mission-Wilsall

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H							
M	1	1	1			1	
L				1	1		1
NA							

1. Category I.
2. Line operated at a small profit in 1980.
3. It is possible that traffic could return to this line if the line were rehabilitated and could carry fully loaded hoppers.
4. Low highway impact.
5. Low expression of community interest (?).
6. Rehabilitation b/c = .55, acquisition b/c = .69.
7. Major shipper on this line (70% of traffic) has closed.

SCORE 45RATING L

INITIAL ANALYSIS

RAIL LINE NAME Elephant Spur

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1						
M							
L			1		1	1	
NA		X		X			

1. Recently abandoned.
2. NA.
3. Future revenue potential is poor. Rail plan speculates mine may not reopen in 10-20 years.
4. NA.
5. Little concern.
6. Acquisition, Drummond - Elephant Spur $b/c = .92$, but this estimate would be reasonable only if mine reopened in a few years.

SCORE 45RATING L

INITIAL ANALYSIS

RAIL LINE NAME Sappington-Harrison

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H		1					
M	1						
L			1	1	1	1	
NA							

1. Category I.
2. Line has produced between 16-90 carloads in recent years.
3. Line is not expected to generate additional traffic in the future.
4. Highway impact low as the result of low grain volumes.
5. Little expression - little community impact would result from abandonment.
6. Rail plan advises the state take no action on this line.

SCORE 45

RATING L

INITIAL ANALYSIS

RAIL LINE NAME Lavin Spur

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H		1					
M	1						
L			1	1	1	1	
NA							

1. Category I.
2. Line generated 66 carloads in 1980, 0 in 1981.
3. Line is close to Great Falls so grain can easily be hauled by truck to that location. There is coal in the area but there are no plans to mine it.
4. Little highway impact.
5. Little expression of public interest.
6. Rehabilitation b/c = .27.

SCORE 45

RATING L

RAIL LINE NAME Valier Junction - Valier

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H					1	1	
M		1	1	1			
L	1						8
NA							

1. Category V.
2. Present revenue potential is moderate.
3. Future revenue potential is moderate.
4. Impacts on FAP 44 are moderate.
5. High community interest.
6. Rehab b/c ratio = 1.20
7. This line has been rehabilitated (1983) and the BN is presently providing service. This line was rehabilitated as a result of a joint effort by the state and the BN, and abandonment is not expected in the next 5 to 10 years.

SCORE 44

RATING L

INITIAL ANALYSIS

RAIL LINE NAME Fromberg-Bridger

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1						
M							
L			1	1	1	1	
NA		X					

1. Recently abandoned (8/9/83).
2. NA.
3. Traffic in 1980 was 44 cars. Line is only one mile from another station on the main line.
4. Little highway impact.
5. Little expression of interest.
6. Acquisition/rehabilitation b/c = .29, new construction b/c = .31.

SCORE 42

RATING L

RAIL LINE NAME Hesper-Rapelje

CRITERION		1	2	3	4	5	6	7
PRIORITY								
H		1						
M								
L			1	1	1	1		
NA		X						

- 1. Recently abandoned (6/17/83).
- 2. NA.
- 3. Traffic levels low - between 1977-1980 the line produced an average of 137 cars/year or between 3-4 cars/mile. Traffic is not expected to increase. The line was profitable when in operation but does not have long-term economic viability.
- 4. Little highway impact.
- 5. Little expression.
- 6. 1980 rail plan states the Department will not oppose abandonment.

SCORE 42

RATING L

INITIAL ANALYSIS

RAIL LINE NAME Choteau-Pendroy

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1						
M							
L			1	1	1	1	
NA		X					

1. Recently abandoned (7/29/83)
2. NA.
3. Line operated at a loss in 1978. 1980 rail plan suggested this line might produce a profit if Milwaukee traffic were added at Choteau.
4. Highway impacts low.
5. Little expression.
6. Retain rail service b/c = less than .5.

SCORE 42

RATING L

INITIAL ANALYSIS

RAIL LINE NAME Circle-Brockway

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1						
M							
L			1	1	1	1	
NA		X					

1. Recently abandoned (5/6/83).
2. NA.
3. The line had been operating at a profit, but the 1980 rail plan suggests that traffic would likely be diverted to Circle even without an abandonment because of the construction of a new grain subterminal at Circle.
4. Low highway impact.
5. Little expression.
6. Rehabilitation, rehabilitation/acquisition b/c ratios less than .5.

SCORE 42

RATING L

INITIAL ANALYSIS

RAIL LINE NAME Big Sandy-Fort Benton

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H	1						
M							
L			1	1	1	1	
NA		X					

1. Recently abandoned (5/6/83).
2. NA.
3. The line from Pacific Junction to Great Falls did produce a profit as a through route but produces a greater profit when the Big Sandy-Fort Benton section is not used.
4. Little highway impact.
5. Expression of interest primarily related to transit privilege. BN is not required to retain the transit privilege as a condition of abandonment.
6. Rehabilitation b/c ratio less than .5.

SCORE 42RATING L

RAIL LINE NAME Three Forks-Whitehall

CRITERION

PRIORITY	1	2	3	4	5	6	7
H							
M		1	1				
L	1			1	1	1	
NA							

- 1. Category V.
- 2. Line is marginally profitable (unless return on value is considered).
- 3. Future revenue potential is moderate.
- 4. Little highway impact.
- 5. Little expression.
- 6. Future traffic on this line is dependant upon the Whitehall-Alder branch. Traffic on the Whitehall-Alder branch is moving and the line is not in danger of abandonment.

SCORE 40

RATING L

INITIAL ANALYSIS

RAIL LINE NAME Durant-Brown

CRITERION

PRIORITY

	1	2	3	4	5	6	7
H		1					
M							
L	1		1	1	1	1	
NA							

1. Category V.
2. Present revenue potential is poor.
3. Future revenue potential poor unless mines reopen.
4. Little highway impact.
5. Little expression.
6. Rehabilitation not recommended by rail plan.

SCORE 40

RATING L

III

Detailed Rail Line Analysis

Task 6 and 7. Scenario Development and Identification of the Most Feasible, Desirable, and Cost Effective Scenario.

Using the initial analysis results produced under Task 5, the lines ranked favorably for their acquisition potential were subjected to a detailed analysis. This analysis required the use of shipper surveys to gather 1983 operating, traffic, and user data, and inspections of the branchline to gather physical data. This data was used to determine railroad financial analysis, rail use impact, and community impact.

This data provided the base for a railroad financial analysis for each branchline. This analysis determines the profit or loss of a branchline. The important results of this analysis include estimates of revenue, on-branch costs, and off-branch costs.

Rail user impact data indicates the manner in which the rail user handles freight, and the user's rail dependency. This data is also used to estimate changes in transportation or capital costs that would be expected from an abandonment.

The impact on area highways resulting from an abandonment is considered to be a community impact. The highway impacts were determined by converting commodities presently moved by rail to truck movements on highways.

Four alternatives to branchline abandonment are normally available for consideration. These are rehabilitation, new construction, acquisition (and shortline operation), and rail banking. All of the lines were considered for acquisition, as

the purpose of this study is to determine the lines' acquisition potential.

There are three basic components used to evaluate various alternatives to abandonment. These are the benefit/cost ratio, the net present value, and the financial evaluation.

The benefit/cost ratio determines the present value of a stream of project benefits and costs by discounting the constant values with a discount rate. This procedure is based on the assumption that projects in which benefits exceed costs are "good" in an economic sense. In other words, a ratio greater than one is "good."

The net present value uses the same data as the benefit/cost analysis, but costs are subtracted from benefits for a net present value. Positive results mean that a project is "good" in an economic sense. This method measures the absolute differences between benefits and costs and is sometimes a better method of comparing alternative projects.

The financial evaluation examines the profitability resulting from an existing or a proposed operation. Using a strict economic analysis, a project with a benefit/cost ratio greater than one or a net present value greater than zero will fail if the operation is not profitable to the carrier. This is because a financial analysis includes freight rates and an economic analysis involves only the economic cost of service.



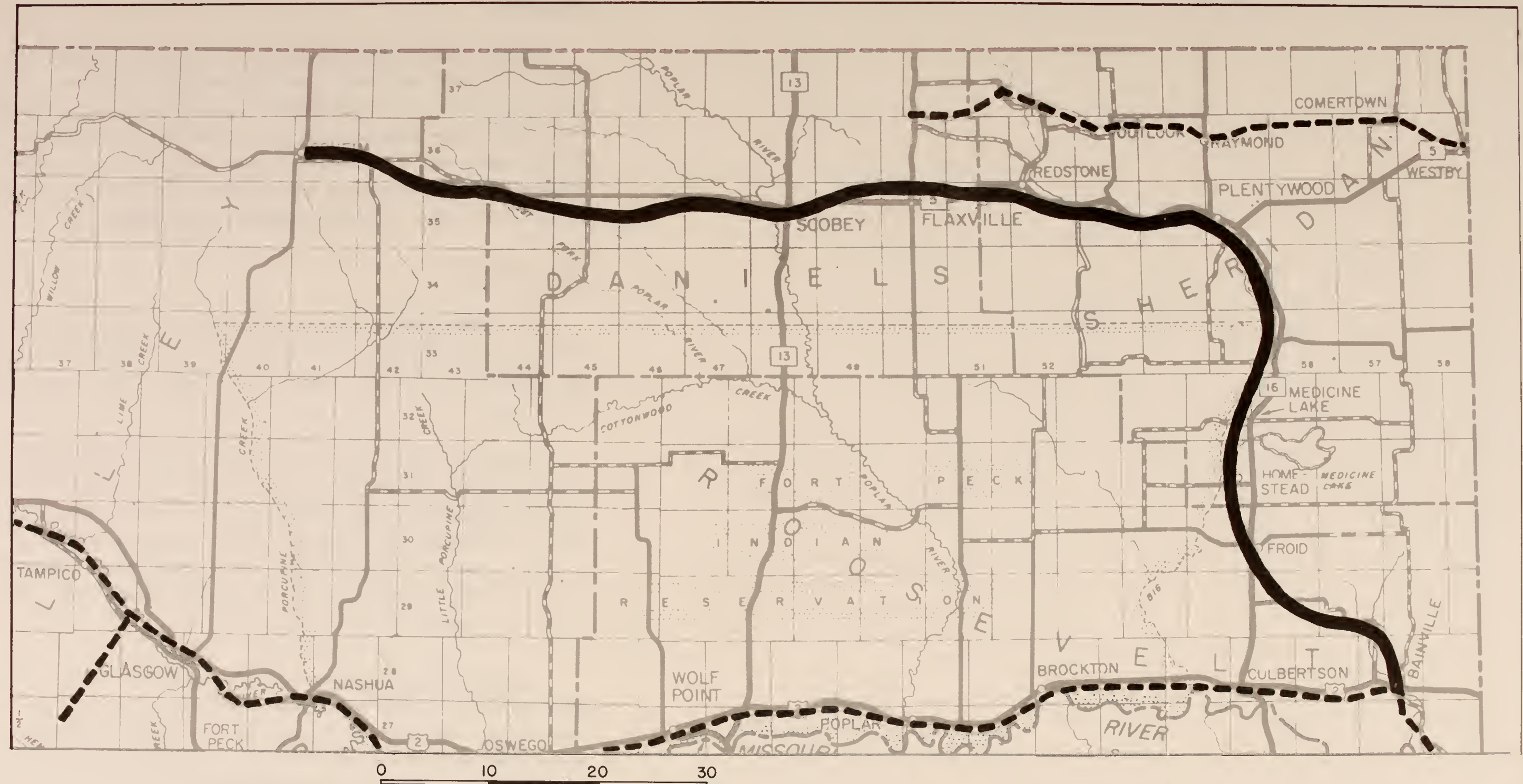
2. Individual detailed rail line analyses.

BAINVILLE TO OPHEIM
Burlington Northern Railroad

This branchline extends 146.6 miles from a BNRR mainline at Bainville through four counties in northeastern Montana. The line serves approximately 15 stations with the largest in terms of carloads being Plentywood and Scobey. The principal originating traffic is farm products, mainly wheat, and the principal terminating traffic is chemicals, mainly fertilizers.

The status and issues concerning this line are as follows:

- Light density line which has not been identified for possible abandonment.
- Very long branchline.
- Major segments in poor condition due to lightweight rail and poor ties.
- Some significant mainline competition for subterminals and other elevators, particularly for branchline stations between Redstone and Opheim; segment toward Bainville experiences less competition from the mainline.
- Some elevators working together to get 26-car multiple origin rates.
- Truck competition exists but distance to market and rail rates tend to keep significant volumes on rail.
- Over 90% of the barley moved by rail in 1983 was shipped to California using 3-car and single-car rates.
- A grain subterminal facility has been built in Plentywood.
- Several small elevators in the Scobey area have merged with a new subterminal facility in Scobey and serve as collector or satellite facilities.

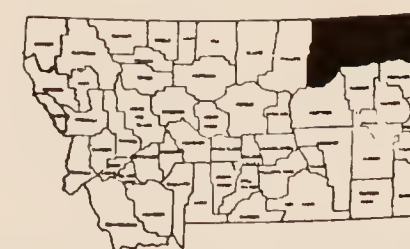


LEGEND

SUBJECT LINE

ALL OTHER LINES

RAILROAD : BURLINGTON NORTHERN
 LENGTH : 146.6 MILES
 COUNTIES : ROOSEVELT, SHERIDAN, DANIELS, VALLEY
 STATUS : LIGHT DENSITY LINE



BAINVILLE - OPHEIM

FIGURE A-1

Rail Use

Table A-1 summarizes 1983 railroad use statistics. A total of 3,574 carloads were transported with over 97 percent being outbound grain shipments, and the remainder inbound fertilizer and farm machinery. Plentywood was the busiest of the 25 stations followed by Scobey, Froid and Peerless. The shippers/receivers using the stations are listed in Table A-2 along with their primary commodities shipped.

Rail Service

The BNRR serves this line twice a week; but due to the length of the line and the speed limits, approximately two days are required for each round-trip. Speed limits vary between 25 and 35 mph.

Bainville to Opheim - Information from the shipper surveys, tariffs, and other sources indicate that the BNRR received revenues of approximately \$12.9 million. The on-branch costs (including opportunity costs) of the line are \$2.9 million, and off branch costs are \$3.5 million, resulting in a profit of \$6.4 million. The estimated revenue and cost of service is shown in Table A-3.

Plentywood to Opheim - On this portion of the line, the BNRR received revenues of approximately \$5.8 million. The on-branch costs are \$1.3 million (including opportunity costs), and off-branch costs are \$1.9 million, resulting in a profit of \$2.6 million. The estimated revenue and cost of service is presented in Table A-4.

Scobey to Opheim - The BNRR received about \$3.7 million on this portion of the line. On-branch costs (including opportunity costs) are \$0.6 million, and off branch costs are \$1.3 million, resulting in a profit of \$1.7 million.

TABLE A-1

RAILROAD USE STATISTICS - 1983
Bainville to Opheim

STATION	CARLOADS		TONS		COMMODITY
	NUMBER	PERCENT	NUMBER	PERCENT	
		Originating			
Opheim	229	6.4	22,500	5.8	Grain
Glentana	65	1.8	5,600	1.4	Grain
Richland	236	6.6	23,364	13.6	Grain
Peerless	290	8.1	28,500	7.3	Grain
Four Buttes	100	2.8	9,800	2.5	Grain
Scobey	302	8.4	30,019	8.0	Grain
Madoc	112	3.1	10,897	2.8	Grain
Flaxville	125	3.5	12,445	3.2	Grain
Redstone	64	1.8	6,262	2.3	Grain
Plentywood	882	24.7	88,200	22.6	Grain
Antelope	239	6.7	23,600	6.0	Grain
Reserve	209	5.8	20,900	5.4	Grain
Medicine Lake	236	6.6	23,600	6.0	Grain
Homestead	96	2.7	9,600	2.5	Grain
Froid	295	8.3	29,500	10.2	Grain
		Terminating			
Richland	13	0.4	1,300	0.3	Dry Fert.
Scobey	17	0.5	1,700	0.4	Dry Fert.
Redstone	2	0.1	28	0.7	Machinery
Plentywood	11	0.3	1,100	0.3	Dry Fert.
Plentywood	1	0.0	10	0.0	Machinery
Reserve	50	1.4	5,000	1.3	Dry Fert.
TOTAL	3,574	100.0	353,925	100.0	
1983 Statistical Summary					
Length: 146.6 Miles					
Carloads Per Week: 68.7					
Carloads Per Mile: 24.4					
Revenue: \$12,891,300					

SOURCE: Montana Department of Commerce

TABLE A-2
RAILROAD USERS
Bainville to Opheim

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Farmers Union GTA	Opheim	P	Farm Products
Glentana Elevator Co.	Glentana	P	Farm Products
Farmers Union Elevator	Richland	P	Farm Products
Richland Farm Supply	Richland	P	Chemicals
Farmers Union GTA	Peerless	P	Farm Products
Four Buttes Farmers Elevator	Four Buttes	P	Farm Products
Farmers Grain Terminal of Daniels County	Scobey	P	Farm Products
Nash Bros. Inc. Feed & Grain	Scobey	P	Farm Products
Rasmus Nelson, Inc.	Scobey	P	Machinery
Farmers Union Carriers	Scobey	P	Chemicals
Noland Implement	Scobey	P	Machinery
Daniels County Farmers Elevator	Madoc	P	Farm Products
Harvest States	Flaxville	P	Farm Products
Redstone Grain Co.	Redstone	P	Farm Products
Nash Bros. Inc.	Redstone	P	Machinery
Montana Merchandising	Plentywood	P	Farm Products
Farmers Union Trading Co.	Plentywood	P	Farm Products
Peavey	Plentywood	P	Farm Products
Farmers Union Oil	Plentywood	P	Chemicals
Plentywood Power Equipment Co.	Plentywood	T	Machinery
Antelope Grain Co.	Antelope	P	Farm Products
Farmers Elevator Co.	Reserve	P	Farm Products
Con Agra	Reserve	P	Chemicals
Sheridan Grain Co.	Reserve	P	Farm Products
Harvest States	Medicine Lake	P	Farm Products
Farmers Elevator	Homestead	P	Farm Products

Farmers Elevator Co.	Froid	P	Farm Products
Harvest States	Froid	P	Farm Products
Farmers Union Oil	Froid	T	Chemicals

(1) P - Private or Leased Siding on Premises
 T - Team Track

SOURCE: Montana Department of Commerce

TABLE A-3
ESTIMATED REVENUES AND COSTS
Bainville to Opheim

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$12,891,300
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 1,858,444
a. Maintenance of Way and Structures (Normalized)	880,800
b. Transportation	490,367
c. Maintenance of Equipment	487,277
3. Off-Branch Costs	<u>3,505,569</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$ 5,364,013
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (7,527,287) (1)
6. Net Liquidation (Line 6a + Line 6b)	\$ 4,886,896
a. Materials	4,178,192
b. Land	708,704
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	1,055,569
9. Total Avoidable Loss (Line 5 + Line 8)	\$ (6,471,718) (1)

(1) Parentheses Indicates Gain

SOURCE: Montana Department of Commerce

TABLE A-4
ESTIMATED REVENUES AND COSTS
Plentywood to Opheim(1)

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$5,790,221
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 999,817
a. Maintenance of Way and Structures (Normalized)	514,800
b. Transportation	254,107
c. Maintenance of Equipment	230,910
3. Off-Branch Costs	<u>\$1,907,307</u>
4. Total Avoidable Costs (line 2 + Line 3)	\$2,907,124
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (2,883,097) (2)
6. Net Liquidation (Line 6a + Line 6b)	\$1,237,633
a. Materials	972,764
b. Land	264,869
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	\$ 267,328
9. Total Avoidable Loss (Line 5 + Line 8)	\$ (2,615,769) (2)

(1) This Analysis Does Not Include Stations At Plentywood.

(2) Parenthesis Indicates Gain.

SOURCE: Montana Department of Commerce

The estimated revenue and cost of service is shown in Table A-5.

Highways

Figure 1 shows the location and surface types of the principal highways serving the area. FAS-248 parallels the branchline from Opheim to Scobey and FAP-22 parallels the line from Scobey to Froid. FAP-31 and FAP-32 provide transportation routes from Opheim and Scobey to Glasgow and Wolf Point, respectively. Distances from stations on the line to alternate rail stations are shown in Table A-6.

Rail Inventory and Condition

Rail inventory and condition is described for Bainville to Scobey and Scobey to Opheim in Tables A-7 and A-8, respectively.

Rehabilitation Costs

Bainville to Scobey - Rehabilitation of the Bainville to Plentywood section is not needed, but the Plentywood to Scobey section is in need of \$4.7 million in order to stabilize the line condition and to allow fully loaded hoppers for the long term. Such equipment is allowed now, but due to the light-weight rail, a lower weight limit eventually will have to be imposed. Rehabilitation costs are shown in Table A-9.

Scobey to Opheim - The rehabilitation estimates for this section are also \$4.7 million, and includes the cost of laying heavier rail for the reasons discussed above. Rehabilitation costs are shown in Table A-10.

TABLE A-5
ESTIMATED REVENUES AND COSTS
Scobey to Opheim(1)

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$3,679,670
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 517,655
a. Maintenance of Way & Structures (Normalized)	280,800
b. Transportation	124,073
c. Maintenance of Equipment	112,782
3. Off-Branch Costs	<u>337,520</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$1,855,175
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (1,824,495) (2)
6. Net Liquidation (Line 6a + Line 6b)	\$ 563,184
a. Materials	460,480
b. Land	102,704
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	121,647
9. Total Avoidable Loss (Line 5 + Line 8)	\$ (1,702,848) (2)

(1) This Analysis Does Not Include Stations At Scobey.

(2) Parenthesis Indicates Gain.

SOURCE: Montana Department of Commerce

TABLE A-6
DISTANCE TO SELECTED RAILROAD STATIONS
Bainville to Opheim

<u>TOWN</u>	<u>ALTERNATIVE RAIL STATION</u>	<u>RAILROAD</u>	<u>ROAD DISTANCE</u>
Opheim	Glasgow	BN	51
Glentana	Glasgow	BN	58
Richland	Glasgow	BN	67
Peerless	Glasgow	BN	79
	Wolf Point	BN	75
Four Buttes	Wolf Point	BN	65
Scobey	Wolf Point	BN	55
	Whitetail	SOO	18
Madoc	Wolf Point	BN	61
	Whitetail	SOO	13
Flaxville	Wolf Point	BN	66
	Whitetail	SOO	7
Redstone	Wolf Point	BN	78
	Whitetail	SOO	19
	Outlook	SOO	17
	Culbertson	BN	65
Plentywood	Culbertson	BN	47
	Raymond	SOO	7
	Westby	SOO	26
Antelope	Culbertson	BN	41
Reserve	Culbertson	BN	33
Froid	Culbertson	BN	14

SOURCE: Montana Department of Commerce

TABLE A-7
LINE FACILITIES CONDITION
Rainville to Scobey

Mileposts	- 0.0 - 100.0
Rail	- 45.3 miles of 77.5-lb rail and 54.7 miles of 90-lb rail, generally in good condition; 77.5-lb rail is bent where track needs surfacing due to poor subgrade at scattered locations; some moon breaks in rail bases noted on light rail.
Ties	- Treated mixed hardwoods and softwoods, generally in good condition between milepost 0.0 and milepost 54.7; between milepost 54.7 and milepost 100 will average 20-25% rotten broken.
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates; varying number of anchors; some areas insufficient anchors are allowing rail to run and are damaging joint ties.
Ballast	- Gravel and crushed rock; west of milepost 54.7 mostly pit run gravel and dirt.
Bridges	- Sixty-two (62) bridges; those bridges observed were in generally good condition.
Road Crossings	- Forty-four (44); ten (10) paved, thirty-four (34) unpaved.
Roadbed/ Ditching	- Roadbed low at several locations, scattered locations of poor subgrade.

Vegetation - Track generally clear of vegetation.

Timetable

Speeds - 35 mph between milepost 0.0 and 54.7
25 mph between milepost 54.7 and 100.0

Weight

Restrictions - 263,000 lb gross weight.

Net

Liquidation - \$3,717,712 (track material), \$606,000 (land)

SOURCE: Montana Department of Commerce

TABLE A-8
LINE FACILITIES CONDITION
Scobey to Opheim

Mileposts	- 100.0 - 148.0
Rail	- 18.8 miles of 75-lb rail, 19.5 miles of 77.5-lb rail, 0.4 miles of 90-lb rail, 5.2 miles of 100-lb rail, 3.0 miles of 110-lb rail, 1.1 miles of 112-lb rail; some of the 77.5-lb curve worn and has numerous base breaks; heavier rail generally with good surface and line, however, with head wear; joints are 24-in, 4-hole.
Ties	- Treated mixed hardwoods and softwoods, generally in poor condition in lighter weight rail segments.
Tie Plates and Rail Anchors	- Fully plated, single shoulder tie plates with double shoulder tie plates with 110-lb and 112-lb rail; some of the lighter plates are wrapping around the base of the rail; varying number of rail anchors throughout line, generally adequate on heavier rail sections and inadequate on lighter rail; some evidence of rail running and skewing ties.
Ballast	- Pit run gravel that has become fouled at many locations.
Bridges	- Thirty-three (33) bridges, those observed were in good condition.
Roadbed/ Ditching	- Scattered locations of poor subgrade and some narrow roadbed; side drainage generally adequate.

Vegetation - Track generally clean with a few locations of light grass and weed growth.

Timetable

Speed - 25 mph

Weight

Restrictions - 263,000 lb gross weight

Net

Liquidation - \$460,480 (track material), \$102,704 (land)

SOURCE: Montana Department of Commerce

TABLE A-9
REHABILITATION COST ESTIMATE
BAINVILLE TO SCOBEE*

Rail, 100-lb Relay (176 tons/mile x 44.6 miles) @ \$300	\$2,354,880
Joints, 100-lb S.H. (320/mile x 44.6 miles) @ \$9.32	133,015
Bolts, Locks and Nuts, New (1,280/mile x 44.6 miles) @ \$2	114,176
Tie Plates, S.H. (6,000/mile x 44.6 miles) @ \$2.75	735,900
Spikes, New (1,200/mile x 44.6 miles) @ \$.36	192,672
Rail Anchors, 100-lb, New (3,240/mile x 44.6 miles) @ \$1.15	166,180
Crossties, New (300/mile x 44.6 miles) @ \$18	240,840
Ballast (900 cu yd/mile x 44.6 miles) @ \$3.60	144,504
Unload Material, 44.6 miles @ \$2,800	124,880
Lay Rail, 44.6 miles @ \$15,000	669,000
Timber and Surface, 44.6 miles @ \$6,000	267,600
Work Crossings, 19 @ \$2,000	38,000
Subtotal	<hr/> \$5,181,647
Less Value of Material Released	470,976
Total Rehabilitation Cost	<hr/> \$4,710,671

* Rehabilitation figures are for Scobey to Plentywood.

SOURCE: Montana Department of Commerce

TABLE A-10
REHABILITATION COST ESTIMATE
SCOBEY TO OPHEIM

Ditching and Roadbed Repair, 5 miles @ \$1,200	\$ 6,000
Rail, 100-lb Relay (176 tons/mile x 38.7 miles) @ \$300	2,043,360
Joints, 100-lb S.H. (320/mile x 38.7 miles) @ \$9.32	115,419
Bolts, Locks and Nuts, New (1,280/mile x 38.7 miles) @ \$2	99,072
Tie Plates, S.H. (6,000/mile x 38.7 miles) @ \$2.75	638,550
Spikes, New (12,000/mile x 38.7 miles) @ \$.36	167,184
Rail Anchors, New (3,240/mile x 38.7 miles) @ \$1.15	144,196
Crossties, New (800/mile x 38.7 miles) @ \$18	557,280
Ballast (900 cu yd/mile x 38.7 miles) @ \$3.60	125,388
Turnouts, #9, 100-lb S.H., 14 @ \$10,000	140,000
Unload Material, 38.7 miles @ \$2,800	108,360
Lay Rail, 38.7 miles @ \$15,000	580,500
Timber and Surface, 38.7 miles @ \$9,600	371,520
Smooth and Line, 9.3 miles @ \$1,500	13,950
Install Turnouts, 14 @ \$3,000	42,000
Work Road Crossings, 22 @ \$2,000	44,000
Subtotal	<hr/> \$5,196,779
Less Value of Material Released	408,672
Total Rehabilitation Cost	<hr/> \$4,788,107

SOURCE: Montana Department of Commerce

Effects of Abandonment

Scobey to Opheim

Railroad - This section of the line is profitable for the railroad, producing a \$1.7 million profit in 1983. However, because most of the grain now shipped on the railroad would most likely be trucked to rail stations in Glasgow and Scobey, the railroad could avoid the on-branch costs of \$639,000 while losing only a small portion of the existing traffic.

Rail Users - Abandonment of this section would have a considerable impact on rail users. Grain elevators in the area would either close down, ship by truck over long distances or merge with elevators on the mainline. According to the shipper surveys, several operators speculated they would go out of business. The estimated truck costs of lost rail service are \$766,000 based on 1983 traffic.

Highways - Table A-11 lists the expected increase in truck traffic on area highways that would result from branch-line abandonment. Increases of average daily truck traffic over existing levels range from 10.9 percent to 22.0 percent. An annual estimated highway impact cost of \$2.2 million would result from increased truck traffic.

Plentywood to Opheim

Railroad - This section of the line is profitable for the railroad, producing a \$2.6 million profit in 1983. Abandoning this section of the branchline would save the BNRR \$1.3 million in on-branch costs, but unlike the Scobey to Opheim section of the line, abandonment of the Plentywood to Scobey section would significantly affect the BNRR's traffic levels. Stations on the Soo Line seven or eight miles to the north

TABLE A-11
AREA HIGHWAY IMPACT ESTIMATES
Scobey to Opheim

<u>HIGHWAY</u>	<u>SECTION</u>	<u>MILEAGE</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>		
			<u>EXISTING</u>	<u>INCREASE</u>	<u>% INCREASE</u>
FAS-248	Opheim-Glentana	7	39	6.1	15.6
FAS-248	Glentana-Richland	9	39	4.9	12.5
FAS-248	Peerless-Four Buttes	10	39	6.3	16.1
FAS-248	Four Buttes-Scobey	7	39	8.6	22.0
FAP-31	Opheim-Jct/FAP-1	49	84	9.2	10.9

Total Estimated Annual Highway Impact Cost: \$2,240,063.00

SOURCE: Montana Department of Commerce
Montana Department of Highways

would provide competition, and considerable amounts of grain would be diverted. Long-haul trucking would be expected to further reduce the BNRR's traffic levels. As a result, abandonment of the entire line from Plentywood to Opheim is less likely.

Rail Users - Without this portion of the branchline, shippers in the area would most likely truck grain to alternate rail stations on the Soo Line and to BNRR stations in Plentywood, Wolf Point, and Glasgow. The estimated truck costs of lost service are \$1.7 million based on 1983 traffic.

Highways - Table A-12 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 3.2 percent to 17.9 percent. An annual estimated highway repair cost of \$6.4 million would result from increased truck traffic.

Alternatives Evaluated

Tables A-13 and A-14 summarize the analysis of rehabilitation and acquisition/rehabilitation projects.

Rehabilitation, Scobey to Opheim - The present value of the benefits of this project is \$23.6 million, and the present value of costs is \$9.5 million. The net present value is \$14.0 million, and the benefit/cost ratio is 2.47. A major portion of the high benefits of this project is the highway impact estimate.

Acquisition/Rehabilitation, Scobey to Opheim - The present value of the benefits of this project is \$24.0 million, and the present value of costs is \$10.1 million. The net present value is \$13.9 million, and the benefit cost ratio is 2.38. The benefit/cost ratio of this project is lower than the project discussed above due to acquisition costs.

TABLE A-12
AREA HIGHWAY IMPACT ESTIMATES
Plentywood to Opheim

<u>HIGHWAY</u>	<u>SECTION</u>	<u>MILEAGE</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>		
			<u>EXISTING</u>	<u>INCREASE</u>	<u>% INCREASE</u>
FAS-248	Opheim-Glentana	7	39	6.1	15.6
FAS-248	Glentana-Richland	9	39	4.9	12.5
FAS-248	Peerless-Four Buttes	10	39	5.2	13.3
FAS-248	Four Buttes-Scobey	7	39	7.0	17.9
FAP-31	Opheim-Jct/FAP-1	49	84	9.2	10.9
FAP-32	Scobey-Jct/FAP-1	48	67	11.1	16.5
FAP-22	Scobey-Flaxville	11	71	8.1	11.4
FAP-22	Flaxville-Redstone	12	71	2.3	3.2
FAP-22	Redstone-Jct/FAS-374	10	71	3.6	5.0
FAP-22	Jct/FAS-374- Plentywood	11	71	3.4	4.7

Total Estimated Annual Highway Impact Ccost: \$ 6,452,168.00

SOURCE: Montana Department of Commerce
Montana Department of Highways

TABLE A-13
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Bainville to Opheim

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
<u>Scobey to Opheim, Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$- 639,304
Truck/User	Annual Line Haul and Handling Cost	766,578
Other	Annual Highway Impact Cost	2,240,000
	Net Salvage of Rehabilitation Materials	1,785,653
<u>Scobey to Opheim, Acquisition/Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$- 639,304
Truck/User	Annual Line Haul and Handling Cost	766,578
Other	Acquisition Cost (Land and Track Materials)	- 563,184
	Annual Highway Impact Cost	2,240,000
	Net Salvage of Rehabilitation Materials	1,785,653
	Liquidation Benefits	563,184
<u>Plentywood to Opheim, Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$-1,267,146
Truck/User	Annual Line Haul and Handling Cost	1,701,356
Other	Annual Highway Impact Cost	6,452,168
	Net Salvage of Rehabilitation Materials	3,637,889

Plentywood to Opheim, Acquisition/Rehabilitation Alternative

Railroad	Annual Cost Savings On-Branch	\$-1,267,146
Truck/User	Annual Line Haul and Handling Cost	1,701,356
Other	Acquisition Cost (Land and Track Materials)	-1,237,633
	Annual Highway Impact Cost	6,452,168
	Net Salvage of Rehabilitation Materials	3,637,889

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE A-14
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Bainville to Opheim

ALTERNATIVE PROJECT	PROJECT COST	PRESENT VALUE (1)			BENEFIT /COST RATIO
		BENEFIT	COST	NET	
		(000's)			
Rehabilitation, Scobey-Opheim	\$ 4,788.10	\$23,610.00	\$ 9,541.50	\$14,068.50	2.47
Acquisition/ Rehabilitation, Scobey-Opheim	5,351.30	24,005.70	10,104.70	13,901.00	2.38
Rehabilitation, Plentywood-Opheim	9,498.70	63,180.20	18,920.40	44,259.80	3.34
Acquisition/ Rehabilitation, Plentywood-Opheim	10,376.40	64,049.80	22,140.70	43,891.70	3.18

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

Rehabilitation, Plentywood to Opheim - The present value of the benefits of this project is \$63.1 million, and the present value of costs is \$18.9 million. The net present value is \$44.2 million, and the benefit/cost ratio is 3.34. A major portion of this high benefits of this project is the highway impact estimate.

Acquisition/Rehabilitation, Plentywood to Opheim - The present value of the benefits of this project is \$64.0 million, and the present value of costs is \$22.1 million. The net present value is \$43.9 million, and the benefit/cost ratio is 3.18. The benefit/cost ratio of this project is lower than the project discussed above due to acquisition costs.

Conclusions

Both the costs of potential rehabilitation projects and especially the impacts of abandonment of this line are relatively high. This line serves a large and productive grain producing area, and viable alternatives to rail service are few. It is recommended that the line be considered for rehabilitation project for at least a portion of the line if such a project would help to insure continuing service. Highway impacts associated with the abandonment of this line are high. Acquisition of an economically self-sustaining portion of this line may be desirable to avoid the impact on area highways.

BRAZIL CREEK SPUR
Burlington Northern Railroad

This 18.7 mile line was constructed to serve a bentonite operation at Brazil Creek about 13 years ago. The line runs from Brazil Creek to the BNRR mainline near Glasgow. The line lies entirely in Valley County and is illustrated in Figure B-1.

The issues surrounding this line are the following:

- The line was removed from Category I status and placed in Category V on the June 1984 System Diagram Map. It can be assumed that the railroad intends to provide service for at least the next few years.
- The traffic for 1983 was up markedly over traffic for 1980, but most of this movement consisted of a stockpiled material. There is little mining activity at present, and only one or two persons are employed full time.
- In the event of an abandonment it is not known if the bentonite would be trucked to final destination or transloaded onto rail cars at the BNRR mainline.
- The line is in very good condition.
- Prognostications for future production are unknown.

Rail Use

As shown in Table B-1, the line serves one shipper at one station, Brazil Creek. The only commodity shipped in 1983 was 278 carloads of bentonite with 88 carloads shipped in 1980, and 953 carloads in 1979, indicating that volumes on the line fluctuate a great deal. Rail use statistics are shown in Table B-2.

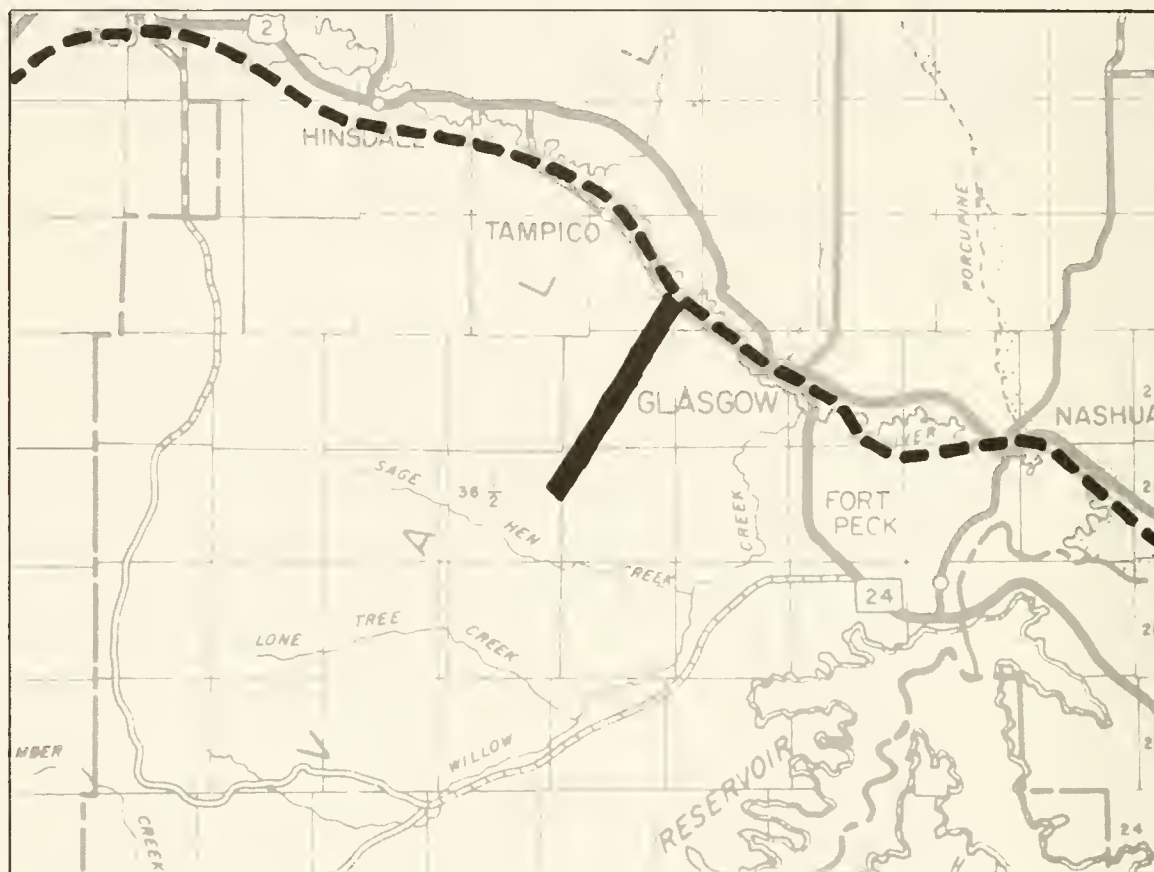
BRAZIL CREEK SPUR

RAILROAD : BURLINGTON NORTHERN

LENGTH : 18.7 MILES

COUNTIES : VALLEY

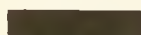
STATUS : LIGHT DENSITY



0 10 20 30

MILES

LEGEND



SUBJECT LINE



ALL OTHER LINES

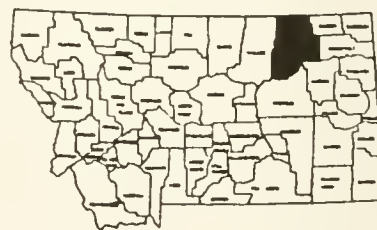


FIGURE B-1

TABLE B-1
RAILROAD USERS
Brazil Creek Spur

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Federal Bentonite Co.	Brazil Creek	P	Nonmetallic Minerals

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Montana Department of Commerce

TABLE B-2
RAILROAD USE STATISTICS - 1983
Brazil Creek Spur

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>COMMOCITY</u>
	<u>NUMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
<u>Originating</u>					
Brazil Creek	278	100	25,000	100	Nonmetallic Minerals

1983 Statistical Summary

Length: 18.7 Miles
 Carloads Per Week: 5.34
 Carloads Per Mile: 14.86
 Revenue: \$558,000

Traffic Volume History

1976	0
1977	0
1978	25
1979	953
1980	88
1983	278

SOURCE: Montana Department of Commerce
 Burlington Northern Railroad

Rail Service

It is estimated that the line is served once every two weeks at a speed of 25 mph. Revenues and costs associated with the line based on 1983 traffic are detailed in Table B-3. The line produced revenues of \$558,000. This amount was exceeded by the total on and off-branch costs, resulting in a loss of \$16,097. The largest component of the on-branch costs was the opportunity cost at \$278,279.

Highways

There are no public roads paralleling the line. Principal highways in the area include a primary highway and a secondary highway as shown in Figure B-1. Distances to alternate rail stations are shown in Table B-4.

TABLE B-4
DISTANCE TO SELECTED RAILROAD STATIONS
Brazil Creek Spur

<u>TOWN</u>	ALTERNATIVE <u>RAIL STATION</u>	<u>RAILROAD</u>	ROAD <u>DISTANCE</u>
Brazil Creek	Glasgow	BN	24
	Tampico	BN	24

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

As detailed in Table B-5, the Brazil Creek Spur is in good condition and is laid with heavy rail. The line is comparatively new and has had little traffic over it. There is no rehabilitation necessary for the Brazil Creek Spur.

TABLE B-3
ESTIMATED REVENUES AND COSTS
Brazil Creek Spur

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$ 558,000
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 162,592
a. Maintenance of Way and Structures (Normalized)	112,200
b. Transportation	16,776
c. Maintenance of Equipment	33,622
3. Off-Branch Costs	<u>133,226</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$ 295,818
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (262,182) (1)
6. Net Liquidation (Line 6a + Line 6b)	\$1,288,331
a. Materials	1,255,331
b. Land	33,000
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	278,279
9. Total Avoidable Loss (Line 5 + Line 8)	\$ 16,097

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE B-5
 LINE FACILITIES CONDITION
 Brazil Creek Spur

Mileposts	- 0.0 - 18.7
Rail	- 18.7 miles of 112-lb rail, generally in good condition; 24-in, 4-hole joints; rail laid with opposing joints.
Ties	- Treated hardwoods in good condition.
Tie Plates and Rail Anchors	- Fully plated with double shoulder tie plates; fully anchored, 16 anchors per 39-ft rail.
Ballast	- Pit run gravel and some dirt.
Bridges	- Approximately three (3) bridges, those observed appeared in good condition.
Road Crossings	- Three (3) unpaved.
Roadbed/ Ditching	- Roadbed generally adequate, except some locations of narrow embankment with evidence of slight settlement; no drainage problems noted.
Vegetation	- Generally clean roadbed with scattered locations of light weeds and grass.
Timetable Speed	- Not stated.

Weight

Restrictions - 263,000 lb gross weight.

Net

Liquidation - \$1,255,331 (track material), \$33,000 (land)

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - This line operated at essentially a break-even basis in 1983. Demand for service on the line fluctuates and is difficult to predict. The line's abandonment would allow the railroad to use the line's assets, estimated at \$1.28 million, in other parts of the system. However, the railroad apparently expects traffic levels to increase, as the line has been removed from Category I status.

Rail Users - Based on 1983 traffic, it would cost the Federal Bentonite Co. an estimated \$63,550 to truck the bentonite to the mainline. A loading facility at the mainline could be built for \$280,000. If the company were to truck the bentonite to its final destination, an annual cost of \$1.3 million would result.

Highways - The only access to the mine is by an unimproved road. This road would have to be improved if bentonite trucks were to use it. This improvement (grading, drainage, graveling) is estimated to cost \$1.7 million. If the company were to truck to final destination as the result of abandonment, an annual highway impact cost of \$535,154 would result on FAP-1 between Glasgow and the North Dakota state line. Table B-6 shows that the increase in average daily truck traffic would range between 0.8 and 1.1 percent.

Alternatives Evaluated

Tables B-7 and B-8 contain an evaluation of three alternatives which were considered for this line.

Substitute Service - This alternative assumes that the bentonite would be trucked to the mainline and loaded onto rail cars instead of moving by rail for the entire distance. The benefit/cost ratio of this alternative is 1.58. The major

TABLE B-6
AREA HIGHWAY IMPACT ESTIMATES (1)
Brazil Creek Spur

<u>HIGHWAY</u>	<u>SECTION</u>	<u>MILEAGE</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>		
			<u>EXISTING</u>	<u>INCREASE</u>	<u>%INCREASE</u>
FAP-1	Glasgow-Wolf Point	49	262	2.28	0.9
FAP-1	Wolf Point-Culbertson	54	289	2.28	0.8
FAP-1	Culbertson-North				
	Dakota State Line	23	202	2.28	1.1

Total Estimated Annual Highway Impact Cost: \$535,154

(1) This estimate assumes that the mine would continue to operate without rail service and that bentonite would be trucked to the final destination in Minnesota. These assumptions are based on speculation.

SOURCE: Montana Department of Highways
Montana Department of Commerce

TABLE B-7
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Brazil Creek Spur

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
<u>Substitute Service Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ 440,872
Truck/User	Annual Line Haul and Handling Cost	-63,550
Other	Cost of Loading Facility	-280,000
	Road Construction Cost	-1,775,000
	Annual Road Maintenance Cost	-16,000
	Liquidation Benefits	1,288,331
<u>Truck To Final Destination Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ 440,872
	Annual Cost Savings Off-Branch	133,226
Truck/User	Annual Line Haul Cost	-1,350,000
Other	Road Construction Cost	-1,775,000
	Annual Road Maintenance Cost	-16,000
	Annual Highway Impact Cost	-535,154
	Liquidation Benefits	1,288,331
<u>Acquisition Alternative</u>		
Railroad/ Operator	Annual Cost Savings On-Branch	\$ -440,872
Truck/User	Annual Line Haul and Handling Cost	63,550
Other	Acquisition Cost (Land and Materials)	-1,288,331
	Cost of Loading Facility	280,000
	Road Construction Cost	1,775,000
	Annual Road Maintenance Cost	16,000
	Liquidation Benefits	1,288,331

NOTE: Negative Value Indicates Disbenefit To The Affected Party.

SOURCE: Montana Department of Commerce

TABLE B-8
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Brazil Creek Spur

<u>ALTERNATIVE PROJECT</u>	PROJECT <u>COST</u>	<u>PRESENT VALUE (1)</u>			BENEFIT /COST <u>RATIO</u>
		<u>BENEFIT</u>	<u>COST</u>	<u>NET</u>	
			(000's)		
Substitute Service	\$2,055.0	\$4,183.2	\$ 2,770.9	\$ 1,536.7	1.58
Truck To Final Destination	\$2,055.0	\$5,173.8	\$15,910.7	\$-10,736.9	0.33
Acquisition	\$1,288.3	\$3,551.6	\$ 4,566.4	\$ -1,014.7	0.78

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

benefit associated with this option is the annual on-branch savings of \$440,872 to the railroad.

Truck to Final Destination - This alternative assumes that the bentonite would be trucked from Brazil Creek all the way to the final destination instead of moving by rail the entire distance. The annual trucking cost associated with this option is \$1.3 million. This option also includes a \$1.7 million cost to upgrade the road from the mine to the mainline and annual highway impact costs of \$535,154. The benefit/cost ratio of this option is 0.33, primarily due to the high trucking costs. It seems unlikely that the bentonite would be trucked to the final destination in Minnesota.

Acquisition - This alternative assumes that the bentonite would be moved on the branchline to the mainline and then would be hauled by rail to the final destination instead of being trucked from Brazil Creek to the mainline.

The cost of acquisition is estimated at \$1.28 million, the value of the line. The net present value of this option is estimated at \$ -1.0 million and the benefit/cost ratio is 0.78. A primary cost associated with the project is the on-branch cost for operating on the line.

Conclusion

Based on 1983 traffic levels, it appears that the substitute service option is "good" in an economic sense because the benefit/cost ratio is greater than one. However, it should be noted that traffic levels from the line are unpredictable. If traffic levels increase, the net profits to the BNRR would increase at a much faster rate than the marginal on and off-branch operating costs. A small increase in traffic would make the line profitable, marking the substitute service option not quite so attractive from an economic analysis point of view.

Highway impacts associated with long-haul trucking are significant, but it is unlikely that these impacts would occur because the cost of trucking would seem to be prohibitively expensive. At 1983 traffic levels, the economic costs of trucking to final destination are much greater than the economic costs of using rail, and the trucking cost is even greater at 1979 traffic levels.

Assuming that the bentonite would not be trucked to the final destination, this analysis can be reduced to the substitute service and the acquisition options. The data indicates that substitute service is feasible at low traffic levels and rail service is feasible at high traffic levels.

Whether traffic levels on this line will be low or high is open to speculation. The mine does provide some employment, but at present levels of operation, the economic impacts on the local economy resulting from its closure would be minimal. It is concluded that the shipper should negotiate with the BNRR or acquire the line if abandonment becomes a probability. If it can be shown that traffic levels would significantly increase for an extended period of time, state investment in the line may be a feasible option.

BUTTE TO WHITEHALL
Burlington Northern Railroad

This line runs east from Butte for approximately 29 miles to Whitehall as illustrated in Figure C-1. Although the line is in fair to good condition, there has been no originating and terminating traffic in over eight years.

The status and issues of the Butte/Whitehall line are as follows:

- Category I which indicates that the railroad intends to file for an abandonment within three years.
- No traffic attributed to the line; only limited amounts of overhead (through) traffic.
- Most overhead traffic moves via Helena.
- Alternative mountain crossing option to provide relief for stressed Helena Crossing.
- State and others concerned about movement of oversized traffic to and from Butte. Butte/Whitehall segment has significantly better clearances than the segment west of Helena.
- Potential AMTRAK route if southern service is restored.

Rail Use

The BNRR has reported no originating and terminating traffic between Butte and Whitehall since 1976. Occasional high and wide loads are moved because other routings are more restrictive. The BNRFP estimates that less than a dozen high and wide loads are moved each year over this segment.

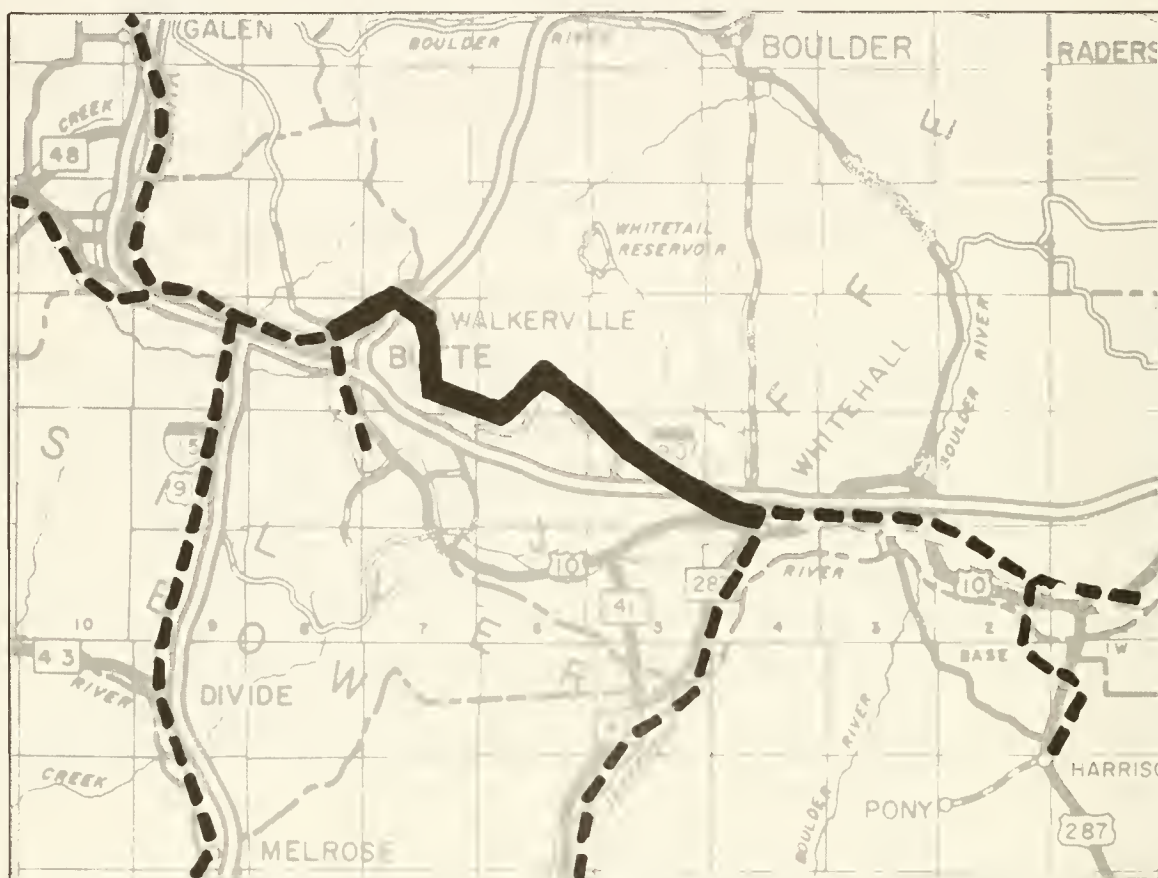
BUTTE - WHITEHALL

RAILROAD: BURLINGTON NORTHERN

LENGTH : 28.8 MILES

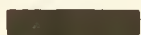
COUNTIES: SILVER BOW, JEFFERSON

STATUS : POTENTIAL ABANDONMENT - CATEGORY I



0 10 20 30
MILES

LEGEND

 SUBJECT LINE

 ALL OTHER LINES

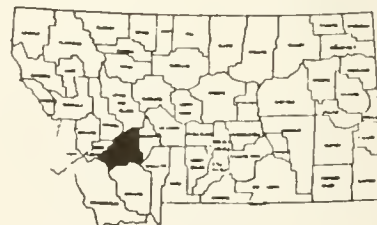


FIGURE C-1

Rail Service

This line is generally used only for high and/or wide loads because other routes are more restrictive. The limiting dimensions of several BNRR segments are shown in Table C-1. From this table, four routes can be constructed with the following limiting height for a twelve foot wide load:

- Laurel/Butte/Sandpoint, ID - 16'6" between Paradise and Sandpoint.
- Laurel/Helena/Sandpoint, ID - 10'0" between Helena and Garrison.
- Laurel/Great Falls/Sandpoint, ID - 16'0" between Laurel and Great Falls.
- Laurel/Helena/Great Falls/Sandpoint, ID - The width restriction for this section is 11'6" between Helena and Great Falls.

Highways

The Butte/Whitehall line is paralleled by Interstate 90 which has an 1983 ADT of 4,390 vehicles with 23 percent truck traffic and FAP 29 which has a 1983 ADT of 310 with 17 percent truck traffic. The highways are illustrated in Figure C-1.

Rail Inventory and Condition

The results of an inspection of this line are detailed in Table C-2. The line has heavy rail, and it is exhibiting some wear particularly on curves. Some rail ends are also chipping. The ties are in fair condition, and the track is well anchored. The bridges on this line are in good condition, and the line can accommodate cars up to 315,000 pounds gross weight. (Curves and grades require speeds of 20-25 mph in most areas.)

TABLE C-1
 MAXIMUM HEIGHT ABOVE TOP OF RAIL FOR 12 FOOT WIDE LOADS
 Selected Segments
 Burlington Northern Railroad

<u>LINE SEGMENT</u>	<u>MAXIMUM ALLOWABLE HEIGHT FOR 12 FT WIDTH</u>
Laurel/Logan	20'0"
Logan/Butte/Garrison	17'0"
Logan/Helena	10'0"
Helena/Great Falls (1)	0'0"
Helena/Garrison	10'0"
Garrison/DeSmet	17'3"
DeSmet/St. Regis/Paradise	16'6"
Paradise/Sandpoint, ID	16'9"
Laurel/Great Falls	16'0"
Great Falls/Shelby	19'3"
Shelby/Cut Bank (2)	15'3"
Cut Bank/Sandpoint, ID	15'3"

(1) Maximum Load Width Capacity For This Structure Is 11'6".

(2) There Is No Designated Clearance For Shelby To Cutbank,
 Clearances Were Used For Shelby To Sandpoint.

SOURCE: Railway Line Clearances, Volume 191, National Railway
 Clearance Publication Company, New York, 1984.

TABLE C-2
LINE FACILITIES CONDITION
Butte to Whitehall

Mileposts	- 68.0 - 39.2
Rail	- 3.7 miles of 100-lb rail, 0.8 miles of 112-lb rail, 6.8 miles of 115-lb rail, 2.3 miles of 131-lb rail, 15.2 miles of 132-lb rail; heavier rail laid mostly on curves, 100-lb rail only on tangents; rail on some curves has some gage face wear on high rail and low rail is flattening; rail on many curves has been transposed; some of the old rail has battered rail ends; line and surface, generally in good condition; joints are 24-in, 4-hose on 100-lb and the heavier rail is 36-in, 6-hole.
Ties	- Treated mixed hardwoods, generally in fair condition. At derailment sites some ties have been spotted in.
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates in 100-lb rail, and double shoulder plates in heavier rail; track well anchored.
Ballast	- Sand and dirt between Butte and Pipestone, crushed rock between Pipestone and Whitehall.
Bridges	- Five (5); all appear in good condition.
Road Crossings	- Five (5); two (2) paved, three (3) unpaved.
Roadbed/ Ditching	- Roadbed width varies, many locations narrow but adequate; several cuts with weathered rock in ditches

that need to be removed; some embankment sluffing that must be restored.

Vegetation - Scattered locations of light weeds and grass; small trees are beginning to grow in roadbed.

Timetable

Speeds - 25 mph - Milepost 43.0 and 46.4
Ascending/Descending
25 mph - Milepost 46.4 and Homestake
15 mph - Homestake and Skones
25 mph - Skones and MP 68.0 Ascending
20 mph - Skones and MP 68.0 Descending

Weight

Restriction - 315,000 lb gross weight.

Net

Liquidation - \$1,147,052 (track material), \$35,148 (land)

SOURCE: Montana Department of Commerce

Rehabilitation Costs

Table C-3 provides the details of the estimated rehabilitation needs between Butte and Whitehall. This work would be needed if the line was returned to regular service. The total estimated cost is \$337,555 which is relatively low.

TABLE C-3
REHABILITATION COST ESTIMATE
Butte to Whitehall

Clean Ditches, 6 miles @ \$2,000/mile	\$ 12,000
Cut Brush, 10 miles @ \$600/mile	6,000
Crossties, New (700/mile x 10.3 miles) @ \$18	129,780
Spikes, New (4,800/mile x 10.3 miles) @ \$.36	17,798
Ballast (900 cu yd/mile x 10.3 miles) @ \$3.60	33,372
Unload Materials, 10.3 miles @ \$1,800	18,540
Timber and Surface, 10.3 miles @ \$8,550	88,065
Rail End Welding, 5 days @ \$450	2,250
Roadbed Repair	2,500
Smooth and Line, 21.8 miles @ \$1,250/mile	<u>27,250</u>
Total Rehabilitation Cost*	\$337,555

*Needed If Returned To Regular Service.

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - Without this line, the BNRR would release some assets which could be used elsewhere. However, as shown earlier, this line offers a less restrictive route for oversized shipments. Some of this traffic could be lost if the line were abandoned, but very few shipments are actually too

large for alternate routes. Abandonment would also eliminate a potential east-west route option for AMTRAK under study at this time.

Rail Users - No railroad customers would be affected by abandonment except for occasional shippers of oversized traffic and for customers using the port of Montana which would lose a shorter eastern connection. Butte would be served from the north by BNRR and the south by the UP. Whitehall will continue to be served from the east.

Conclusions

No benefit/cost analysis for project funding was performed for this line since there is so little use made of the facility. The end points will continue to have adequate service. Some oversized shipments might be precluded if the line were abandoned, but there are few of these. The justifications for rail banking this line are to insure an eastern route into Butte which is attempting to expand its economy, to provide a potential AMTRAK route, and to provide eastern access for a regional shortline carrier and western access for mining operations in the Alder area.

DIXON TO POLSON
Burlington Northern Railroad

This 33 mile light density line extends from the BNPR mainline at Dixon to Polson as illustrated in Figure D-1. The principal towns are Pablo, Ronan, and Polson which generate virtually all of the rail traffic. The majority of the rail traffic on this line is lumber and wood products.

The status and issues concerning the Dixon to Polson branch are as follows:

- Light density line which has not been identified for possible abandonment.
- Two principal rail customers.
- Major rail users currently use truck for a substantial part of their business.
- Lumber industry is depressed due to the economy.
- An increasing amount of lumber is being shipped by truck.

Rail Use

Over 85 percent of the traffic on this line is lumber and wood products as summarized in Table D-1. Other traffic consists of agricultural products and other farming materials, insulation, and coal for residential use. Ten rail users, listed in Table D-2, were identified by the User Survey.

Rail Service

This line connects with the light density mainline which runs from Paradise to DeSmet and is served twice a week. The timetable speed is 25 mph.

Table D-3 provides an estimate of the revenues and costs associated with the Dixon to Polson line. The revenues which


DIXON - POLSON

RAILROAD : BURLINGTON NORTHERN
 LENGTH : 33.4 MILES
 COUNTIES : SANDERS, LAKE
 STATUS : LIGHT DENSITY LINE



0 10 20 30
 MILES

LEGEND

 SUBJECT LINE

 ALL OTHER LINES

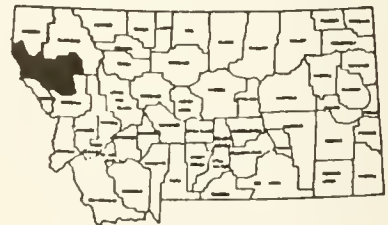


FIGURE D-1

TABLE D-1
RAILROAD USE STATISTICS - 1983
Dixon to Polson

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>COMMODITY</u>
	<u>NIMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
<u>Originating</u>					
Charlo	3	0.7	57.5	0.2	Misc. Freight
Ronan	17	4.1	1,700.0	6.8	Dry Fert.
Ronan	19	0.7	1,495.0	6.0	Grain
Pablo	323	78.0	17,765.0	71.3	Wood Products
Polson	50	12.0	3,000.0	12.0	Wood Products
<u>Terminating</u>					
Ronan	1	0.2	0.2	Negligible	Machinery
Ronan	3	0.7	27.0	0.1	Insulation
Polson	6	1.4	550.0	2.2	Dry Fert.
Polson	1	0.2	60.0	0.2	Coal
Polson	8	1.9	320.0	1.3	Misc. Freight
TOTAL	431	100.0	24,976.0	100.0	

1983 Statistical Summary

Length: 33.4 Miles
 Carloads Per Week: 8.28
 Carloads Per Mile: 12.9
 Revenue: \$1,259,955

SOURCE: Montana Department of Commerce

TABLE D-2
RAILROAD USERS
Dixon to Polson

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
A.N.W. Montana Wool Growers Association	Charlo	T	Misc. Freight
Woody's Building Supply	Ronan	T	Insulation
Western Feed and Supply	Ronan, Charlo, Pablo	T	Chemicals, Farm Products
Stedje Brothers Cenex/Co-op and Supply	Ronan	T	Machinery
Plum Creek	Ronan	T	Chemicals
	Pablo	P	Lumber and Wood Products
Western Bee Supply	Polson	P	Misc. Freight
Flathead Lumber	Polson	P	Lumber and Wood Products
Mountain Feed and Supply	Polson	T	Chemicals
Bjork Distributors	Polson	T	Coal

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Montana Department of Commerce

TABLE D-3
ESTIMATED REVENUES AND COSTS
Dixon to Polson

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On Branch	\$1,259,955
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 413,837
a. Maintenance of Way and Structures (Normalized)	216,348
b. Transportation	113,435
c. Maintenance of Equipment	84,054
3. Off-Branch Costs	<u>283,126</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$ 696,963
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (562,992) (1)
6. Net Liquidation (Line 6a + Line 6b)	\$ 737,386
a. Materials	534,982
b. Land	202,404
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	\$ 159,275
9. Total Avoidable Loss (Line 5 + Line 8)	\$ (403,717) (1)

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

BNRR received in 1983 are \$1,259,955, and the costs attributable to the line are \$856,239. The cost includes a return on value of the investment in the line as well as an allowance for normalized maintenance. Since the cost revenue exceed the costs, this line operated at a profit in 1983.

Highways

The Dixon to Polson line is paralleled by Federal Aid Primary Highway 5 and Federal Aid secondary Highway 212 as illustrated by Figure D-1. FAP 5 also connects Ronan and St. Ignatius with the BNRR stations on the BNRR mainline to the south. Table D-4 lists the highway distances to the nearest BNRR station at Dixon.

TABLE D-4
DISTANCE TO SELECTED RAILROAD STATIONS
Dixon to Polson

<u>TOWN</u>	<u>RAIL STATION</u>	<u>RAILROAD</u>	<u>DISTANCE</u> (Miles)
Charlo	Dixon	BN	11.0
Ronan	Dixon	BN	19.0
Pablo	Dixon	BN	22.0
Polson	Dixon	BN	33.0

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

The results of an inspection of the Dixon to Polson line are presented in Table D-5. In general, the line is in reasonably good condition with standard weight limit and a timetable speed of 25 mph. The majority of the line has medium weight rail which is adequate for current traffic. However, the lighter weight rail should be replaced. The ties are in

TABLE D-5
LINE FACILITIES CONDITION
Dixon to Polson

Mileposts	- 0.5 - 33.4
Rail	- Approximately 25.0 miles of 85-lb rail and 7.9 miles of 70-lb rail, except for 112-lb rail through the turnout at milepost 31.1 and 100-lb rail on east leg of the wye at Dixon; surface and alignment fair; joints are 24-in, 4-hole with quarter cracks.
Ties	- Treated mixed hardwoods and softwoods, average 25-30% defective; some ties damaged by joints in the lighter rail sections.
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates; varying number of anchors throughout length of line; many locations with inadequate anchors allowing rail to run and skew joint ties.
Ballast	- Generally chips on cinders and dirt.
Bridges	- All appear in good condition.
Road Crossings	- Twenty-six (26); ten (10) paved, sixteen (16) unpaved.
Roadbed/ Ditching	- Generally adequate except where hill sides are slipping and filling ditches. In some areas this is an ongoing problem.
Vegetation	- Few areas have grass in ballast section.

Timetable Speed - 25 mph

Weight

Restriction - 263,000 lb group loading

Net Liquidation - \$534,982 (track material), \$202,404 (land)

SOURCE: Montana Department of Commerce

generally good condition except through the lighter weight rail. The line is fully plated, but there are many locations with inadequate anchors which have allowed the ties to skew.

Rehabilitation Costs

Table D-6 indicates that approximately \$1,752,000 is needed to stabilize this line for a long term operating condition at the present standard. The majority of this cost is due to the need to replace segments of light weight rail and defective ties.

Effects of Abandonment

Railroad - This line had a considerable volume of lumber traffic in 1980 (765 carloads) but 1983 information suggests that the level has decreased due to the economically depressed Montana lumber industry, and the increased use of trucks. Abandonment of the line would save the railroad at least the on-branch costs of \$573,000, but the railroad is making a profit on this line. Since the line is not identified for abandonment by the carrier, this possibility is not expected in the short term.

Rail Users - If rail users use alternate rail stations on the mainline, the estimated truck costs resulting from lost service are \$128,000 annually.

Highways - Table D-7 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 0.4 percent to 2.5 percent. An annual estimated highway impact cost of \$54,274 would be attributed to increased truck traffic.

TABLE D-6
REHABILITATION COST ESTIMATE
DIXON TO POLSON

Rail, 100-lb Relay (176 tons/mile x 8.4 miles) @ \$300	\$ 443,520
Joints, 100-lb S.H. (320/mile x 8.4 miles) @ \$9.32	25,052
Bolts, Locks, and Nuts, New (1,280/mile x 8.4 miles) @ \$2	21,504
Tie Plates, S.H. (6,000/mile x 8.4 miles) @ \$2.75	138,600
Spikes, New (12,000/mile x 8.4 miles) @ \$.36	36,288
Spikes, New (2,800/mile x 24.5 miles) @ \$.36	24,696
Rail Anchors, New (3,240/mile x 8.4 miles) @ \$1.15	31,298
Cross Ties, New (700 mile x 33.0 miles) @ \$18	427,140
Unload Material, 8.4 miles @ \$2,800	23,520
Unload Material, 24.5 miles @ \$2,200	53,900
Lay Rail, 8.4 miles @ \$15,000	126,000
Timber and Surface, 33.9 miles @ \$9,000	305,100
Ballast, (500 cu yd/mile x 33.9 miles) @ \$3.60	61,020
Work Road Crossings, 23 @ \$2,000	46,000
Change Out Defective 85-lb Rails with Material Released from 100-lb Rail Change, 5 days @ \$800	4,000
Rail Anchors, New, 85-lb (1,920/mile x 24.5 miles) @ \$1.15	54,096
Apply Anchors, 24.5 miles @ \$800	19,600
Subtotal	<hr/> \$1,841,334
Less Value of Material Released	88.704
Total Rehabilitation Cost	<hr/> \$1,752,630

SOURCE: Montana Department of Commerce

TABLE D-7
AREA HIGHWAY IMPACT ESTIMATES
Dixon to Polson

<u>HIGHWAY</u>	<u>SECTION</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>			
		<u>MILEAGE</u>	<u>EXISTING</u>	<u>INCREASE</u>	<u>% INCREASE</u>
FAP 5	Polson-Pablo	7	890	0.4	0.04
FAP 5	Pablo-Ronan	5	703	2.4	0.3
FAP 5	Ronan-I-90	46	721	2.5	0.3

Total Estimated Annual Highway Impact Cost: \$54,274

SOURCE: Montana Department of Highways
Montana Department of Commerce

Alternatives Evaluated

As a line included in the Chapter 653 study, rehabilitation and acquisition/rehabilitation alternatives have been evaluated. The results are summarized in Tables D-8 and D-9.

Rehabilitation - The project cost of the alternative is approximately \$1,752,000. The net present value of benefits over a ten year period is \$1.6 million, and the present value of costs is \$6.0 million, resulting in a benefit/cost ratio of 0.28.

Acquisition/Rehabilitation - The project cost of this alternative is approximately \$2,490,000. The net present value of benefits over a ten year period is \$2.2 million, and the present value of costs is \$6.0 million, resulting in a benefit/cost ratio of 0.32.

Conclusions

The traffic on this line is at a lower level than previous years due to the state of the construction industry and the increased use of trucks. However, an upturn in the demand for wood products could result in increased rail traffic, and shippers presently use rail to ship and receive significant tonnages. A significant number of shippers would be affected by an abandonment, and as a result, a rehabilitation or an acquisition rehabilitation project would be recommended if the possibility of abandonment becomes likely and if the project compares favorably with other lines analyzed in this report.

TABLE D-8
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Dixon to Polson

<u>BENEFIT</u> <u>TYPE</u>	<u>DESCRIPTION</u>	<u>ESTIMATED</u> <u>BENEFIT</u>
<u>Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$-573,112
Truck/User	Annual Line Haul and Handling Cost	128,791
Other	Net Salvage Value of Rehabilitation Materials	447,315
	Annual Highway Impact Cost	54,274
<u>Acquisition/Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$-573,112
Truck/User	Annual Line Haul and Handling Cost	128,791
Other	Acquisition Cost (Land and Materials)	-737,386
	Annual Highway Impact Cost	54,274
	Net Salvage Value of Rehabilitation Materials	447,315
	Liquidation Benefits	737,386

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE D-9
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Dixon to Polson

<u>ALTERNATIVE PROJECT</u>	<u>PROJECT COST</u>	<u>PRESENT VALUE (1)</u>			<u>BENEFIT /COST RATIO</u>
		<u>BENEFIT</u>	<u>COST</u>	<u>NET</u>	
		(000's)			
Rehabilitation	\$1,752.6	\$1,675.4	\$6,013.9	\$-4,338.5	0.28
Acquisition/ Rehabilitation	\$2,490.0	\$2,193.5-	\$6,751.3	\$-4,557.8	0.32

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

DRUMMOND TO PHILIPSBURG
Burlington Northern Railroad

This branchline is located in Granite County and extends south from the BNRR mainline at Drummond to Philipsburg and is approximately 26 miles long. The line is now out of service due to a derailment, which damaged the track.

The status and issues surrounding this are as follows:

- Category I which means the line may be abandoned within three years.
- The major shipper, a wood yard, has closed.
- Metallic ores have been shipped on the line but are now being trucked to East Helena; rail distance is approximately 100 miles and is considered to be a short haul by rail.

Rail Use

This line has not been used for several years. Table E-1 lists traffic volume history for the line, and Table E-2 lists the former rail users.

Rail Service

No service is provided because the line has been damaged from a derailment. Prior to that time the line was served as needed at a maximum speed of 30 mph. The line connects with the BNRR's southern mainline which runs from Mossmain to Sandpoint, ID.

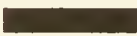
DRUMMOND TO PHILIPSBURG

RAILROAD: BURLINGTON NORTHERN
LENGTH: 26.2 MILES
COUNTIES: GRANITE
STATUS: POTENTIAL ABANDONMENT - CATEGORY I



0 10 20 30
MILES

LEGEND

 SUBJECT LINE

 ALL OTHER LINES

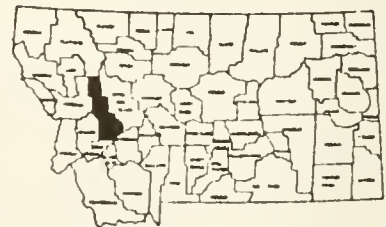


FIGURE E-1

TABLE E-1

TRAFFIC VOLUME HISTORY

1976 - 299
 1977 - 150
 1978 - 190
 1979 - 72
 1980 - 86
 1982 - 0
 1983 - 0
 1984 - 0

SOURCE: Burlington Northern Railroad
 Montana Department of Commerce

TABLE E-2
 FORMER RAILROAD USERS
 Drummond to Philipsburg

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Hogan's Ranch Supply	Hall	T	Chemicals
Chuck Crabtree	Philipsburg	P	Lumber & Wood Products
Black Pine Mine	Philipsburg	P	Metallic Ore

(1) P - Private Or Leased Siding On Premises.

T - Team Track

SOURCE: Burlington Northern Railroad
 Montana Department of Commerce

Highways

The Drummond to Philipsburg line is paralleled by Federal Aid Primary Highway 19. FAP 19 also provides a route from Philipsburg to Anaconda and between I-90 and the BNRR mainline. Traffic on FAP 19 varies from 535 to 1,200 vehicles per day with 11 percent truck traffic. The distance to Drummond, the closest alternative station is 31 miles as listed in Table E-3.

TABLE E-3
DISTANCE TO SELECTED RAILROAD STATIONS
Drummond to Philipsburg

<u>TOWN</u>	<u>ALTERNATIVE RAIL STATION</u>	<u>RAILROAD</u>	<u>ROAD DISTANCE</u>
Philipsburg	Drummond	BN	26

SOURCE: Montana Department of Commerce

Rehabilitation Costs

The Philipsburg line rehabilitation needs are listed in Table E-4. A total of \$506,111 is needed for cross ties and related work, and another \$6,500 is needed to repair the short segment that was damaged by the derailment. These estimates are taken from the 1982 Rail Plan.

Effects of Abandonment

Railroad - Since the traffic on this line had declined even before the track went out of service, BNRR had incurred both operating losses and opportunity costs of relatively unproductive assets. Therefore, abandonment would eliminate these costs which in 1980 were estimated at \$285,841. Mining potentials beyond a one to five year time frame would most

TABLE E-4
REHABILITATION COST ESTIMATE
Drummond to Philipsburg (1)

Ditch and Repair Roadbed, 3 miles @ \$1,000	\$ 3,000
Joints, 90 lb S.H. (32/mile x 15.7 miles) @ \$6.00	3,014
Bolts and Nut Locks, New (128/mile x 15.7 miles) @ \$1.75	3,517
Crossties, New (600/mile x 15.7 miles) @ \$17.00	160,140
Spikes, New (2,400/mile x 15.7 miles) @ \$.36	13,565
Rail Anchors, New (2,240/mile x 15.7 miles) @ \$1.15	40,443
Ballast, (1,000 tons/mile x 15.7 miles) @ \$3.75	58,875
Ballast, (700 tons/miles x 10.3 miles) @ \$3.75	27,038
Unload Material, 15.7 miles @ \$1,800	28,260
Unload Material, 10.3 miles @ \$1,500	15,450
Timber and Surface, 15.7 miles @ \$6,000	94,200
Surface and Line, 10.3 miles @ \$2,500	25,750
Install Joints and Anchors, 15.7 miles @ \$1,000	15,700
Work Road Crossings, 9 @ \$2,000	<u>18,000</u>
Subtotal	\$506,952
Less Value of Material Released	<u>- 840</u>
Total Rehabilitation Cost	\$506,111

Restore 240 T.F. at Derailment Site:	
Crossties, New, 137 @ \$17.00	\$ 2,329
Tie Plates, S.H. 274 @ \$1.25	343
Rail, 90 lb Relay, 1.2 tons @ \$1.75	210
Joints, S.H., 14 @ \$6.00	84
Bolts and Nut Locks, New, 56 @ \$1.75	98
Spikes, New, 548 @ \$.36	197
Ballast, 160 tons @ \$3.60	576
Track Laying and Surfacing, 240 T.F. @ \$11	<u>2,640</u>
Restoration of Track	\$ 6,477
Total Rehabilitation and Service Restoration Cost	\$512,587

(1) 1982 Estimates

SOURCE: Wilbur Smith and Associates

likely be prohibitive in terms of unproductive railroad assets to justify retention of this line.

Rail Users - The traffic on this line had nearly disappeared with the closure of two businesses. Therefore, there are no user impacts of abandonment. There is, however, potential traffic that could result from mining activity. At present, active mines are using trucks for relatively short haul movements. These companies did not utilize the branchline prior to the derailment.

Highways - Since the line is not used, there are no highway impacts of abandonment.

Alternatives Evaluated

Tables E-5 and E-6 provide the results of the analysis of two alternatives for this line.

Acquisition, Drummond to Philipsburg - At the 1976 traffic levels the benefit/cost ratio is 0.32 and the net present value is \$-2.469 million.

Acquisition/Rehabilitation, Drummond to Philipsburg - This alternative produces a low benefit/cost ratio even at 1976 traffic levels. The benefit/cost ratio is 0.29, and the net present value is \$-2.971 million.

Conclusions

This line had a very low traffic level even before a derailment forced the line out of service. Therefore, potential traffic would be the only reason to restore service. Although there is active mining in the area, little moved by rail over this line prior to the derailment. This mining cannot be considered as a strong potential for future rail use

without further market development. This line is not recommended for acquisition unless it ranks favorably with other lines in this report.

TABLE E-5
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Drummond to Philipsburg
1976 Traffic Level

<u>TYPE</u>	<u>DESCRIPTION</u>	<u>BENEFIT</u>
<u>Acquisition Alternative</u>		
Railroad/ Operator	Annual Cost Savings On-Branch	\$-358,161
	Annual Cost Savings Off-Branch	0
Truck/User	Annual Line Haul and Handling Cost	65,677
Other	Liquidation Value of Lane	126,000
	Net Salvage Value of Track Materials	866,000
<u>Acquisition/Rehabilitation Alternative</u>		
Railroad/ Operator	Annual Cost Savings On-Branch	\$-358,161
	Annual Cost Savings Off-Branch	0
Truck/User	Annual Line Haul and Handling Cost	65,677
Other	Liquidation Value of Land	126,000
	Net Salvage Value of Track Materials	881,651

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Wilbur Smith and Associates.

TABLE E-6
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Drummond to Philipsburg

<u>ALTERNATIVE PROJECT</u>	PROJECT <u>COST</u>	<u>PRESENT VALUE (1)</u>			BENEFIT/ COST <u>RATIO</u>
		<u>Benefit</u>	<u>Cost</u>	<u>Net</u>	
		(000's)			
Acquisition (2)	\$ 992.0	\$1,185.4	\$3,655.0	\$-2,469.7	0.32
Acquisition/ Rehabilitation (2)	1,504.6	1,196.3	4,167.6	-2,971.3	0.29

(1) Discount Rate - 4 Percent.

Project Life - 10 Years.

(2) 1976 Traffic Level

SOURCE: Wilbur Smith and Associates.

MISSOULA TO DARBY
Burlington Northern Railroad

This 65.9 mile branch line is located in Missoula and Ravalli Counties and extends from Missoula south to Darby as illustrated in Figure F-1. The majority of the traffic on the line is lumber and wood products.

The status and issues concerning this line are summarized:

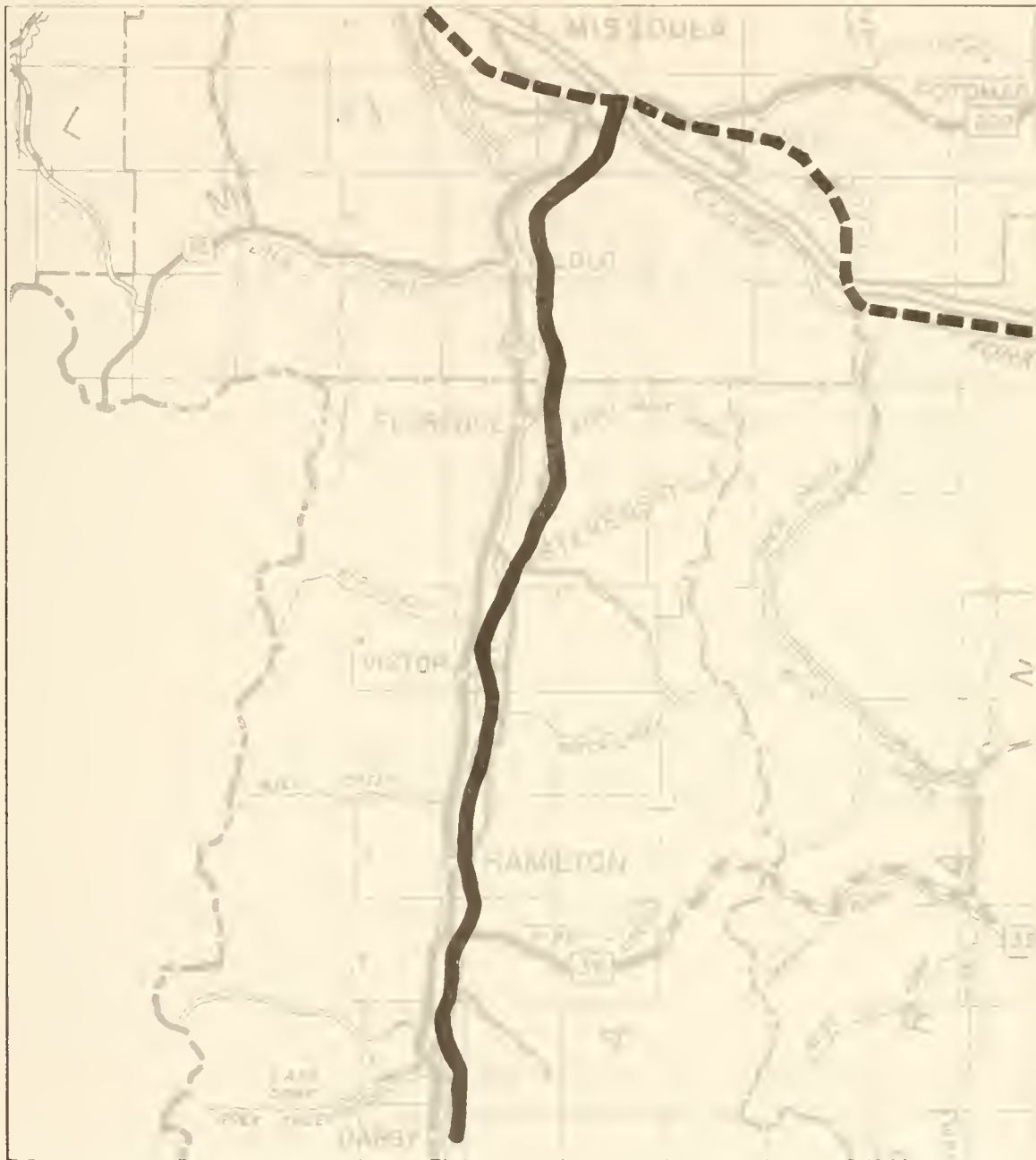
- Light density line which has not been identified for abandonment.
- Truck competition in the area has created low truck rates, causing previous rail users to switch to trucks for transportation.
- Lumber industry is depressed due to the economy.

Rail Use

Of the fourteen rail users interviewed for the 1982 Rail Plan, only seven continue to use rail service on this branch line. These rail users are listed in Table F-1. The major shippers are two lumber companies located at the end of the line in Darby. These companies ship 15-20% of their total board feet by rail due to customer specification. The minor users on the line receive fertilizer and bulk feed and ship feed grain. Two additional rail users are the vermiculite mine in Victor and the fluorspar mine in Darby. Both mining operations rely on 100% rail transportation to move the ore. The vermiculite mine has been closed since 1979 and is for sale. The mine's operators shipped 100 carloads in 1977 and 83 carloads in 1978. The fluorspar mine was closed in 1983 but shipped 7,000 tons of ore in 1984 for a total of 99 carloads. The market for this fluorspar is tied to the automobile industry and is unpredictable. Table F-2 shows rail use statistics for this line.

MISSOULA TO DARBY

RAILROAD: BURLINGTON NORTHERN
LENGTH: 65.9 MILES
COUNTIES: MISSOULA, RAVALLI
STATUS: LIGHT DENSITY LINE



0 10 20 30 40 50 MILES

SUBJECT LINE 


ALL OTHER LINES 



TABLE F-1
RAILROAD USERS
Missoula to Darby

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Farmers Exchange/ Cenex	Stevensville	P	Chemicals
Bitterroot Farm and Building Supply	Stevensville	P	Chemicals
Agriculture West	Hamilton	P	Chemicals
Lake Milling Inc.	Hamilton	P	Farm Products
Champion International	Darby	P	Wood Products
Stolze Lumber	Darby	P	Wood Products
Darby Spar, LTD.	Darby	P	Nonmetallic Minerals

(1) P - Private Or Leased Siding On Premises
T - Team Track

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

TABLE F-2
RAILROAD USE STATISTICS - 1983
Missoula to Darby

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>COMMODITY</u>
	<u>NUMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
<u>Originating</u>					
Hamilton	3	1.0	300	1.7	Grain
Darby	183	66.0	9,700	55.8	Wood Products
Darby (1)	49	17.7	3,500	20.1	Nonmetallic Minerals
<u>Terminating</u>					
Stevensville	16	5.7	1,600	9.2	Dry Fert.
Hamilton	20	7.2	2,000	11.5	Dry Fert.
Hamilton	6	2.2	270	1.5	Grain
TOTAL	227	100.0	17,370	100.0	

1983 Statistical Summary

Length: 65.9 Miles
 Carloads Per Week: 5.32
 Carloads Per Mile: 4.20
 Revenue: \$912,292

(1) These Figures Represent A Two-year Average.

SOURCE: Montana Department of Commerce

Rail Service

This line connects with the main line at Missoula and is served once a week. The timetable speed is 25 or 30 mph, depending on the location.

Table F-3 provides an estimate of the revenues and costs attributable to the line. The railroad received revenues of \$914,292. On-branch costs (including opportunity costs) were approximately \$750,000, and on-branch costs totaled \$181,000. The line produced a loss in 1983 of \$17,332.

Highways

Federal Aid Primary Highway 7 parallels the line for its entire length. Table F-4 lists the distances from stations on the Missoula - Darby line to the nearest BNRR station at Missoula.

TABLE F-4
DISTANCE TO SELECTED RAILROAD STATIONS
Missoula to Darby

<u>TOWN</u>	<u>RAIL STATION</u>	<u>RAILROAD</u>	<u>DISTANCE</u> (Miles)
Stevensville	Missoula	BN	29.0
Hamilton	Missoula	BN	49.0
Darby	Missoula	BN	65.9

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

The results of a line inspection are shown in Table F-5. The line appears to be in fair to good condition.

TABLE F-3
ESTIMATED REVENUES AND COSTS
Missoula to Darby

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$ 914,292
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 502,593
a. Maintenance of Way and Structures (Normalized)	378,002
b. Transportation	68,183
c. Maintenance of Equipment	56,408
3. Off-Branch Costs	<u>181,381</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$ 683,974
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (230,318) (1)
6. Net Liquidation (Line 6a + Line 6b)	1,146,528
a. Materials	946,851
b. Land	199,677
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	247,650
9. Total Avoidable Loss (Line 5 + Line 8)	\$ 17,332

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE F-5
LINE FACILITIES CONDITION
Missoula to Darby

Mileposts	- 0.0 - 65.9
Rail	- 85-lb and 90-lb rail throughout line, all in fair shape.
Ties	- Treated mixed hardwoods and softwoods, generally in fair condition
Tie Plates and Rail Anchors	- Fully plated with single shoulder tie plates; varying number of rail anchors, very few locations where rail is running due to insufficient anchors.
Ballast	- Cinders and dirt with scattered locations where crushed rock has been dumped to smooth rough spots.
Bridges	- Fifty (50) bridges, all that were observed appeared to be in good condition.
Road Crossings	- Thirty-nine (39); fifteen (15) paved, twenty-four (24) unpaved.
Roadbed/ Ditching	- Roadbed is generally adequate, side drainage fairly good with no blockages noted.
Vegetation	- Scattered locations of weeds and grass, but generally in good condition.

Timetable

Speed - 25 mph, except milepost 0.0 - 11.0 and milepost 47 to Darby 30 mph.

Weight

Restrictions - 263,000 lb gross weight.

Net

Liquidation - \$964,851 (track material), \$199,677 (land)

SOURCE: Montana Department of Commerce

Rehabilitation Costs

Table F-6 lists the labor and materials necessary to rehabilitate this line to a stable long term operating condition.

TABLE F-6
REHABILITATION COST ESTIMATE
Missoula to Darby

Crossties, New (400/mile x 65.9 miles) @ \$18	\$ 474,480
Spikes, New (1,600/mile x 65.9 miles) @ \$.36	37,958
Ballast (900 cu yd/mile x 65.9 miles) @ \$3.60	213,516
Unload Material, 65.9 miles @ \$2,000	131,800
Timber and Surface, 65.9 miles @ \$6,600	434,940
Work Road Crossings, 43 @ \$2,000	86,000
Subtotal	<hr/> \$1,378,694
Less Value of Material Released	---
Total Rehabilitation Cost	<hr/> \$1,378,694

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad

Due to the increased use of trucks, traffic on this line has decreased significantly from the last time this line was surveyed in 1980. The economically depressed state of the Montana wood products industry has added to the decrease in traffic levels. This line was operated at a loss of \$17,332 in 1983, and abandonment of the line would save the railroad the on-branch costs of \$750,243.

Rail Users

If rail service were discontinued, the wood products shippers would most likely utilize motor carriers to transport commodities to Missoula and then ship by rail to accommodate the customers' specified rail shipments. Rail users that ship fertilizer and grain would be expected to ship/receive entirely by truck or transload commodities at Missoula. The fluorspar mine at Darby could not operate without rail service. The estimated annual truck costs resulting from lost service are \$145,499.

Highways

Table F-7 lists the expected increase in truck traffic on Federal Aid Primary highway 7 that would result from branch line abandonment. Increases of average daily truck traffic over existing levels range from 0.2 percent to 0.3 percent. The annual estimated highway impact cost resulting from rail abandonment is \$111,424.

TABLE F-7
AREA HIGHWAY IMPACT ESTIMATES

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC		
			EXISTING	INCREASE	% INCREASE
FAP-7	Darby-Hamilton	18	406	1.1	0.3
FAP-7	Hamilton-				
	Stevensville	21	418	1.3	0.3
FAP-7	Stevensville-				
	Jct/FAP-93	17	430	1.5	0.3
FAP-7	Jct/FAP-93-				
	Missoula	11	766	1.4	0.2

Total Estimated Annual Highway Impact Cost: \$111,424

SOURCE: Montana Department of Highways
Montana Department of Commerce

Alternatives Evaluated

The evaluation results of the rehabilitation and acquisition/rehabilitation alternatives are summarized in Tables F-8 and F-9.

Rehabilitation - The cost of this alternative is approximately \$1.3 million. The net present value of benefits over a ten year period is \$1.9 million, and the present value of costs is \$6.9 million, resulting in a benefit/cost ratio of 0.27.

Acquisition/Rehabilitation - Approximately \$2.5 million would be required to implement this project. The net present value of benefits and costs over a ten year period are \$2.7 million and \$8.1 million, respectively. The benefit/cost ratio is 0.34. The net present value, \$-5.3 million is greater than the net present value of the rehabilitation alternative due to the acquisition cost.

Conclusions

Without rail service, the shippers of wood products would probably be adversely affected in the long run due to their inability to fill customer-specified rail deliveries (the wood products could be transloaded from truck to rail at Missoula, but at added expense). It is not clear if other shippers on the line would experience higher transportation costs.

Nevertheless, the wood products industry is vital to the local economy, and a resurgence in the demand for wood products could result in increased rail traffic. As a result, it is recommended that this line be considered for project funds if it ranks high in relation to other lines studied in this report.

TABLE F-8
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Missoula to Darby

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
<u>Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -750,243
Truck/User	Annual Line Haul and Handling Cost	145,499
Other	Net Salvage Value of Rehabilitation Materials	-0-
	Annual Highway Impact Cost	111,424
<u>Acquisition/Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -750,243
Truck/User	Annual Line Haul and Handling Cost	145,499
Other	Acquisition Cost (Land and Materials)	-1,146,528
	Net Salvage Value of Rehabilitation Materials	-0-
	Liquidation Benefits	1,146,528

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE F-9
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Missoula to Darby

<u>ALTERNATIVE PROJECT</u>	<u>PROJECT</u>	<u>PRESENT VALUE (1)</u>			BENEFIT/ COST
	<u>COST</u>	<u>Benefit</u>	<u>Cost</u>	<u>Net</u>	<u>RATIO</u>
			(000's)		
Rehabilitation	\$1,378.7	\$1,910.3	\$6,957.0	\$-5,046.7	0.27
Acquisition/ Rehabilitation	\$2,525.2	\$2,715.9	\$8,103.5	\$-5,387.7	0.34

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

MOCCASIN TO GERALDINE
Central Montana Railroad

This 87.5 mile branchline, illustrated in Figure G-1, extends from Geraldine in a southeast direction to Spring Creek Junction and west to Moccasin, which is on the BNRR mainline.

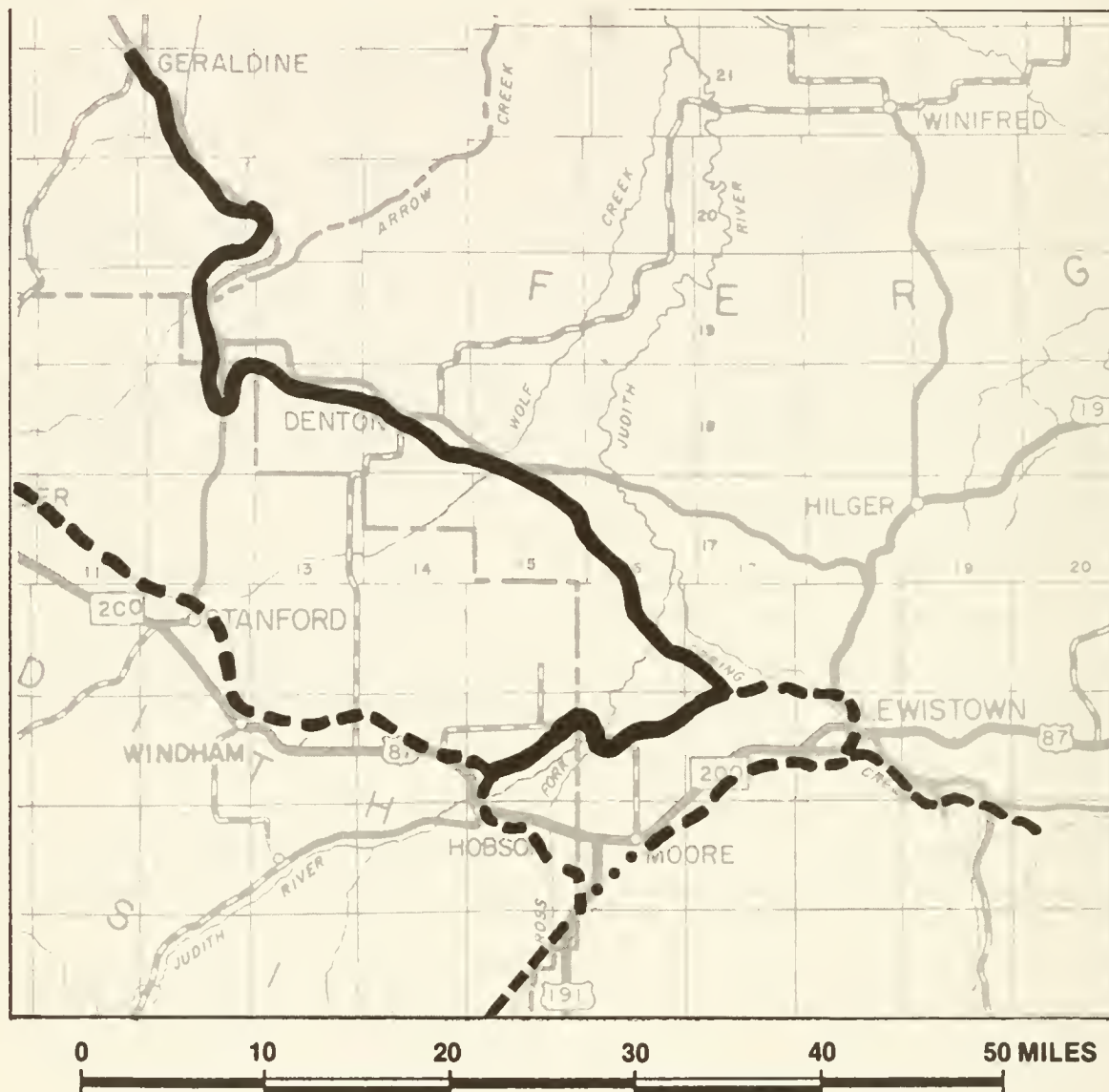
In September of 1984, the Montana Department of Commerce, the Burlington Northern Railroad, and a committee of farmers and grain shippers from Geraldine and Denton signed an agreement to restore service on the branchline as a shortline operation. The newly formed Central Montana Rail Association will be incorporated as a nonprofit organization to operate the shortline railroad.

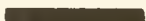


At present, the line and its bridges are being rehabilitated at a cost of approximately \$5.0 million. It is anticipated that this work will be completed in 1985, allowing the movement of grain from the area.

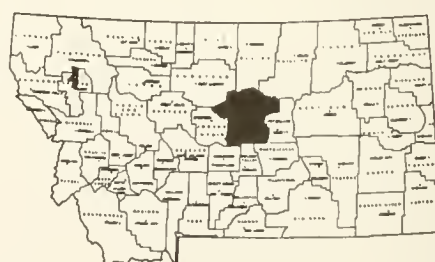
Because this line has already been acquired by the State of Montana, further analysis in this study is not required.

MOCCASIN TO SPRING CREEK TO GERALDINE

RAILROAD: CENTRAL MONTANA RAIL
 LENGTH: 86.8 MILES
 COUNTIES: FERGUS, CHOUTEAU
 STATUS: LIGHT DENSITY LINE



SUBJECT LINE 
 ALL OTHER LINES 
 PROPOSED FOR 1985
 CONSTRUCTION SEASON 



NEWLON JUNCTION TO RICHEY
Burlington Northern Railroad

This 45.4 mile branchline is in Richland and Dawson Counties as illustrated on Figure H-1. Three stations are active and they generate mainly farm products.

The status and issues of this branchline are summarized below:

- Light density line which has been placed in Category III. If a protest is not filed, the line may be abandoned in early 1985.
- The major commodity off of this branchline in 1983 was barley destined for California. California feed buyers offered a special rate in 1983 for single car barley shipments.
- Only 17 carloads of wheat moved off the branchline in 1983.
- Two major grain shippers have merged with 52 car loading facilities and are functioning as satellite grain elevators. Farmers Union in Richey merged with Farmers Union Elevator in Circle and Farmers Union Grain Company in Lambert merged with Nortana Grain Co. in Sidney.
- The line is in poor condition.
- Traffic on the line has significantly decreased from 1980 levels.

Rail Use

Farm products in 1983 accounted for 75 percent of all traffic on the line and for 100 percent of outbound traffic.

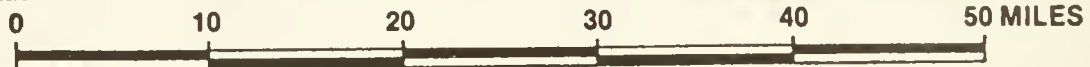
NEWLON JCT. TO RICHEY

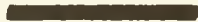
RAILROAD: BURLINGTON NORTHERN

LENGTH: 45.4 MILES

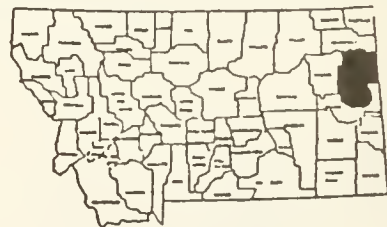
COUNTIES: RICHLAND, DAWSON

STATUS: ABANDONMENT PENDING ICC DECISION - CATEGORY III



SUBJECT LINE 

ALL OTHER LINES 



of the seven shippers/receivers on the line, the three shippers/receivers at Richey accounted for most (58 percent) of the line traffic. Fertilizer was the only inbound commodity on the line. The total 1983 traffic of 116 carloads was considerably lower than for other years for which data is available. Tables H-1 and H-2 summarize 1983 railroad use and user statistics.

Rail Service

Weekly service is provided on an as needed basis on this line according to rail users. The line connects with the BNR's mainline just south of Sidney.

The estimated net loss on this line in 1983 is approximately \$326,000 as shown in Table H-3. The line generated approximately \$331,000 in gross revenues. The principal on-branch cost component is the allowance for normalized maintenance.

Highways

Federal Aid Primary 51 parallels the line from Sidney to Richey and provides a route from Richey to Circle. A secondary highway, FAS 254, connects Richey with FAP 25 to Wolf Point to the northwest and with Glendive to the southeast. The highways and surface types are shown on Figure H-1. The highway distances to other rail stations are listed in Table H-4.

Rail Inventory and Condition

The inspection of this branchline revealed that the track has lightweight rail in poor condition and crossties that are up to 40% defective. In addition, there are an inadequate number of rail anchors. Finally, several locations have poor subgrade which causes problems in maintaining an adequate surface and alignment. Table H-5 provides details.

TABLE H-1
RAILROAD USE STATISTICS - 1983
Newlon Junction to Richey

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>COMMODITY</u>
	<u>NUMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
<u>Originating</u>					
Lambert	18	15.5	1,800	15.5	Grain
Enid	14	12.1	1,400	12.1	Grain
Richey	56	48.3	5,600	48.3	Grain
<u>Terminating</u>					
Lambert	16	13.8	1,600	13.8	Dry Fert.
Richey	12	10.3	1,200	10.3	Dry Fert.
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
	116	100.0	11,600	100.0	

1983 Statistical Summary

Length: 45.4 Miles
 Carloads Per Week: 2.2
 Carloads Per Mile: 2.5
 Revenue: \$331,530

Traffic Volume History

1976	801
1977	450
1978	649
1979	865
1980	389
1983	116

SOURCE: Montana Department of Commerce
 Burlington Northern Railroad

TABLE H-2
RAILROAD USERS
Newlon Junction to Richey

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Peavey Elevator Farmers Union Trading Assoc.	Richey	P	Farm Products
Kenry Fertilizer	Richey	P	Chemicals
Enid Grain Co. Cenex Soil Service Center	Enid	P	Farm Products
Farmers Union Grain	Lambert	P	Chemicals
Lambert Grain, Inc.	Lambert	P	Farm Products

(1) P - Private Or Leased Siding On Premises.
T - Team Track.

SOURCE: Montana Department of Commerce

TABLE H-3
ESTIMATED REVENUES AND COSTS
Newlon Junction to Richey

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$331,530
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$386,486
a. Maintenance of Way and Structures (Normalized)	295,100
b. Transportation	57,008
c. Maintenance of Equipment	34,378
3. Off-Branch Costs	<u>94,026</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$480,512
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$148,982
6. Net Liquidation (Line 6a + Line 6b)	\$821,774
a. Materials	656,700
b. Land	165,074
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	\$177,503
9. Total Avoidable Loss (Line 5 + Line 8)	\$326,485

SOURCE: Montana Department of Commerce

TABLE H-4
 DISTANCE TO SELECTED RAILROAD STATIONS
 Newlon Junction to Richey

<u>TOWN</u>	ALTERNATIVE <u>RAIL STATION</u>	<u>RAILROAD</u>	ROAD <u>DISTANCE</u>
Richey	Sidney	BN	46
	Glendive	BN	48
	Wolf Point	BN	51
	Circle	BN	28
Enid	Sidney	BN	29
Lambert	Sidney	BN	24

SOURCE: Montana Department of Commerce

TABLE H-5
LINE FACILITIES CONDITION
Newlon Jct to Richey

Mileposts	- 15.3 - 60.7
Rail	- 23.7 miles of 77.5-lb rail and 21.7 miles of 80-lb rail, except for 90-lb rail through several road crossings. Many locations have bars applied defective rail sections; most rail shows heavy wear; joints are 24-in 4-hole; bolts generally tight.
Ties	- Treated mixed hardwoods and softwoods up to 40% defective; joint ties damaged where rail is running and has skewed ties.
Tie Plates and Rail Anchors	- Single shoulder tie plates on about 75% of line; no anchors noted and rail is running and skewing joint ties.
Ballast	- Pit run gravel and dirt, scattered locations where chips have been dumped and not tamped.
Bridges	- Forty-five (45) bridges; at least three (3) will have to be worked to keep the line open.
Road Crossings	- Thirteen (13); five (5) paved, eight (8) unpaved.
Roadbed/ Ditching	- Several locations with poor subgrade creating problems in maintaining surface and alignment. Some of the larger fills have started to fail.
Vegetation	- Track generally clean, except grass and weeds in yards.

Timetable

Speed - 20 mph

Weight

Restriction - 263,000 lb gross weight.

Net

Liquidation - \$656,700 (track material), \$165,074 (land).

SOURCE: Montana Department of Commerce

Rehabilitation Costs

The condition of this line is insufficient to carry fully-loaded covered hoppers during the long term, and this condition is reflected in the estimated \$5.5 million needed for rehabilitation. As shown the largest part of this cost is the rail, tie plates, crossties, and labor. Detailed rehabilitation estimates are shown in Table H-6.

Effects of Abandonment

Railroad - At the 1983 traffic level this line operated at a \$326,000 loss. The railroad would eliminate this loss and at least the on-branch component of the operating costs if they abandoned the line. The line has been placed in Category III, and abandonment in early 1985 is possible.

Rail Users

In recent years, shippers and receivers have continued to increasingly rely on trucks to move fertilizer and grain in and out of the area. Two major shippers have merged with facilities in Sidney and Circle, reducing their rail transportation needs and decreasing the line's potential traffic level. The estimated annual cost to trucks to alternate railheads is \$146,987.

Highways

Table H-7 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 0.04 percent to 1.4 percent. An annual estimated highway impact cost of \$139,726 would be attributable to increased truck traffic.

TABLE H-6
REHABILITATION COST ESTIMATE
NEWLON JCT TO RICHEY

Rail, 100-lb Relay (176 tons/mile x 45.4 miles) @ \$300	\$2,397,120
Joints, 100-lb S.H. (320/mile x 45.4 miles) @ \$9.32	135,401
Bolts, Locks and Nuts, New (1,280/mile x 45.4 miles) @ \$2	116,224
Tie Plates, S.H. (6,000/mile x 45.4 miles) @ \$2.75	749,100
Spikes, New (12,000/mile x 45.4 miles) @ \$.36	196,128
Rail Anchors, New (3,240/mile x 45.4 miles) @ \$1.15	169,160
Crossties, New (800/mile x 45.4 miles) @ \$18	653,760
Ballast (900 cu yd/mile x 45.4 miles) @ \$3.60	147,096
Turnouts, #9, 100-lb S.F., 8 @ \$10,000	80,000
Unload Materials, 45.4 miles @ \$2,800	127,120
Lay Rail, 45.4 miles @ \$15,000	681,000
Install Turnouts, 8 @ \$3,000	24,000
Timber and Surface, 45.4 miles @ \$9,600	435,840
Bridge Repairs, 3 @ \$20,000	60,000
Work Road Crossings, 13 @ \$2,000	26,000
Subtotal	<hr/> \$5,997,949
Less Value of Material Released	479,424
Total Rehabilitation Cost	<hr/> \$5,518,525

SOURCE: Montana Department of Commerce

TABLE H-7
 AREA HIGHWAY IMPACT ESTIMATES
 Newlon Junction to Richey

<u>HIGHWAY</u>	<u>SECTION</u>	<u>MILEAGE</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>		
			<u>EXISTING</u>	<u>INCREASE</u>	<u>% INCREASE</u>
FAP-51	Circle-Richey	28	36	0.5	1.4
FAP-51	Richey-Enid	15	55	0.02	0.04
FAP-51	Enid-Lambert	12	69	0.1	0.1
FAP-51	Lambert-Newlon Jct	23	69	0.4	0.6
FAS-254	Richey-Jct/FAP-20	43	34	0.1	0.4

Total Estimated Annual Highway Impact Cost: \$139,726

SOURCE: Montana Department of Highways
 Montana Department of Commerce

Alternatives Evaluated

Tables H-8 and H-99 list the results of an economic analysis of rehabilitation and acquisition/rehabilitation projects for this line.

Rehabilitation - Under this potential project, the line would be upgraded to FRA Class 2 (25 mph) and would be able to accommodate fully loaded 100-ton covered hoppers over the long term. The benefit/cost ratio, 0.30, is relatively low because of the high cost of the option.

Acquisition/Rehabilitation

Under this option, the line would be rehabilitated to the standards described above. Acquisition costs are estimated at \$821,000. The benefit/cost ratio is 0.33, and the net present value is -\$7.0 million.

Conclusions

Although this line is in a productive grain area, the BNRR operated the line at a loss in 1983. Traffic levels on the line have decreased dramatically since the introduction of 52 car unit train rates. Because of recent changes in the area's transportation patterns, it is not likely that traffic on the line could be increased to former levels without a change in the unit train rate structure. Therefore, it is recommended that project funds not be considered for this project unless it ranks high in relation to other projects in this report.

TABLE H-8
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Newlon Junction to Richey

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
<u>Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -563,989
Truck/User	Annual Line Haul and Handling Cost	46,987
Other	Annual Highway Impact Cost	139,726
	Net Salvage Value of Rehabilitation Materials	2,169,062
<u>Acquisition/Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$-563,989
Truck/User	Annual Line Haul and Handling Cost	46,987
Other	Acquisition Cost (Land and Track Materials)	-821,774
	Annual Highway Impact Cost	139,726
	Net Salvage Value of Rehabilitation Materials	2,169,062
	Liquidation Benefits	821,774

SOURCE: Montana Department of Commerce

TABLE H-9
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Newlon Junction to Richey

<u>ALTERNATIVE PROJECT</u>	<u>PROJECT</u>	<u>PRESENT VALUE (1)</u>			BENEFIT/ COST
	<u>COST</u>	<u>BENEFIT</u>	<u>COST</u>	<u>NET</u>	<u>RATIO</u>
			(000's)		
Rehabilitation	\$5,518.5	\$2,912.2	\$ 9,712.0	\$-6,799.7	0.30
Acquisition/ Rehabilitation	\$6,340.3	\$3,489.6	\$11,416.2	\$-7,044.1	0.33

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

SOURCE: Montana Department of Commerce

NORTH DAKOTA STATE LINE TO WHITETAIL
Soo Line Railroad

This 56.9 mile section from the North Dakota state line to Whitetail, Montana is the only Soo Line Railroad branch in Montana. Another 82 miles of the branch are in North Dakota. The line serves five stations in Montana. Figure I-1 illustrates the location of the line.

The following is a summary of the status and issues affecting the line:

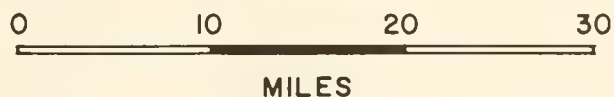
- Light density line which has not been identified for possible abandonment.
- Soo Line rates have been competitive with BNRR rates; Soo Line offers 26-car multiple origin rates.
- Elevators are independent but do take some advantage of multiple origin rates.
- Elevators compete with elevators on Rainville/Opheim branch to some extent although patterns are generally established.
- 52-car rates on BNRR mainline do not appear to affect this branch.

Rail Use

All 1983 shipments on the line were outbound carloads of farm products with Outlook being the busiest station. There are a total of six shippers using the line, and they shipped 812 carloads according to the Soo Railroad. 1983 railroad use and user statistics are summarized in Tables I-1 and I-2.

NORTH DAKOTA STATE LINE - WHITETAIL

RAILROAD: SOO LINE
 LENGTH : 56.9 MILES
 COUNTIES: DANIELS, SHERIDAN
 STATUS : LIGHT DENSITY LINE



LEGEND

- SUBJECT LINE
- ALL OTHER LINES

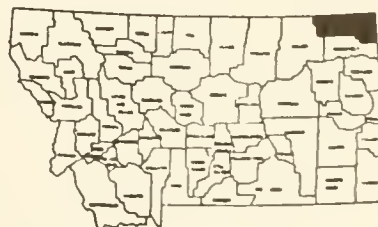


FIGURE I-1

TABLE I-1
RAILROAD USE STATISTICS - 1983
North Dakota State Line to Whitetail

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>Commodity</u>
	<u>NUMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
			<u>Originating</u>		
Whitetail	183	22.5	17,934	22.5	Farm Products
Daleview	7	0.9	686	0.9	Farm Products
Outlook	362	44.6	35,476	44.6	Farm Products
Raymond	11	1.3	1,078	1.3	Farm Products
Westby	249	30.7	24,402	30.7	Farm Products
			<u>Terminating</u>		
None					
Total					
Traffic	<u>812</u>	<u>100.0</u>	<u>79,576</u>	<u>100.0</u>	

1983 Statistical Summary:

Length: 56.9 Miles
 Carloads Per Week: 15.6
 Carloads Per Mile: 14.3
 Revenue: \$1,570,253

SOURCE: Montana Department of Commerce
 Soo Line Railroad

TABLE I-2
RAILROAD USERS
North Dakota State Line to Whitetail

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Whitetail Grain Co.	Whitetail	P	Farm Products
	Daleview		Farm Products
Outlook Farmers Elevator	Outlook	P	Farm Products
Hass Farms	Outlook	P	Farm Products
Shermont Electric & Grain	Raymond	P	Farm Products
Farmers Grain & Trading Co.	Westby	P	Farm Products

(1) P - Private or leased siding on premises.
 T - Team track.

SOURCE: Montana Department of Commerce.

Rail Service

This branch is the eastern portion of a 139-mile branch-line extending from Flaxton, North Dakota. Service is provided approximately once a week at an average speed of 25 mph for most of the line in Montana.

The estimated revenue and cost of service on the Montana segment is presented in Table I-3. The 1983 gross revenue, provided by the Soo Railroad, was \$1.5 million, and the estimated cost of annual operations was \$1.0 million which includes both a normalized maintenance value and an opportunity cost of the land and materials. Therefore, this line segment made a \$548,000 profit in 1983.

Highways

Federal Aid Primary 22 and FAP 30 parallel the line 7 to 8 miles to the south. Federal Aid Secondary Highways 374 and 511 and FAP 34 provide access from stations on the line to FAP 22 and FAP 30. As shown on Table I-7, truck traffic volumes vary from 23 to 348 trucks per day. Other rail stations in the area are listed in Table I-4 along with the highway distances.

Rail Inventory and Condition

The inspection results of this branch are detailed in Table I-5. The line is constructed with lightweight rail, much of which has defective ends. The line and surface of the track are fair to poor. The ties are in fair condition. Some of the segments have poor subgrade, and the right-of-way is heavily washed in certain locations. Despite the lightweight rail and roadbed problems described in the table, the line operates at a weight limit sufficient to accommodate 100-ton covered hoppers.

TABLE I-3
ESTIMATED REVENUES AND COSTS
North Dakota State Line to Whitetail(1)

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$ 1,570,253
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c).	\$ 551,609
a. Maintenance of Way & Structures (Normalized)	355,397
b. Transportation	85,008
c. Maintenance of Equipment	111,204
3. Off-Branch Costs	<u>224,090</u>
4. Total Avoidable Costs (Line 2 plus Line 3)	\$ 775,699
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (794,554) (2)
6. Net Liquidation (Line 6a + Line 6b)	\$ 1,142,111
a. Materials	938,495
b. Land	203,616
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	\$ 246,695
9. Total Avoidable Loss (Line 5 + Line 8)	\$ (547,859) (2)

(1) Statistics Relate Only To Montana Operations On This Branchline.

(2) Parenthesis Indicates Gain.

SOURCE: Montana Department of Commerce

TABLE I-4
 DISTANCE TO SELECTED RAILROAD STATIONS
 North Dakota State Line to Whitetail

<u>TOWN</u>	ALTERNATIVE <u>RAIL STATION</u>	<u>RAILROAD</u>	ROAD <u>DISTANCE</u>
Whitetail	Flaxville	BN	7
	Culbertson	BN	84
	Wolf Point	BN	73
Daleview	Flaxville	BN	10
	Culbertson	BN	87
	Wolf Point	BN	76
Outlook	Plentywood	BN	18
	Culbertson	BN	65
Raymond	Plentywood	BN	7
	Culbertson	BN	54
Westby	Plentywood	BN	26
	Culbertson	BN	73

SOURCE: Montana Department of Commerce

TABLE I-5
LINE FACILITIES CONDITION
Westby to Whitetail

Mileposts	- 620.05 to 676.94
Rail	- Approximately 4.5 miles of 60-lb rail, 34.2 miles of 72-lb rail, 18.2 miles of 80-lb rail; numerous locations where bars have been applied to defects; line and surface is fair to poor; 22-in and 24-in 4-hole joints.
Ties	- Treated mixed hardwoods, spaced 24-in except in soft areas they are 19-in, generally fair condition.
Tie Plates and Rail Anchors	- Approximately 85% of the ties have single shoulder plates; some areas have inadequate anchors allowing rail to run and skew joint ties.
Ballast	- Pit run gravel over cinders mixed with dirt.
Bridges	- Five (5) bridges, one (1) bridge needs work.
Road Crossings	- Twenty (20); four (4) paved, sixteen (16) unpaved.
Roadbed/ Ditching	- Several locations have drainage problems and poor subgrade. These areas generally have poor surface and alignment.
Vegetation	- Generally good with scattered locations of light grass.

Timetable

Speeds - 35 mph between mileposts 620.05, and 632.6 and 20 mph between mileposts 632.6 and 676.94.

Weight

Restriction - 263,000 lb gross weight.

Net

Liquidation - \$938,495 (track material), \$203,616 (land)

SOURCE: Montana Department of Commerce

Rehabilitation Costs

Since this line is composed of lightweight rail, the cost to rehabilitate the Montana segment of this branch is relatively high as detailed in Table I-6. The total estimated rehabilitation cost is approximately \$5.8 million with the major cost components being rail, tie plates, and the labor and equipment charges to install the heavier rail. This work would stabilize the line condition for the long term.

Effects of Abandonment

Railroad - The assets of this line could be used in other parts of the Soo Line system if this segment were abandoned. Based on the cost and revenue table presented earlier, the railroad would save the on-branch costs of approximately \$798,306 per year without this line. However, the line is profitable, and an abandonment would cause a net loss of income.

Rail Users - Without this branchline, the shippers in this area would probably ship grain by truck to the nearest BN stations on the Bainville-Opheim branchline or to BN mainline stations. The estimated truck costs of lost service are \$786,000 per year based on 1983 traffic.

Highways

Table I-7 lists the expected increase in truck traffic on area highways that would result from branchline abandonment. Increases of average daily truck traffic over existing levels range from 0.7 percent to 13.2 percent. An annual estimated highway impact cost of \$2,148,000 would result from increased truck traffic.

TABLE I-6
REHABILITATION COST ESTIMATE
WESTBY TO WHITETAIL

Ditching, 5 miles @ \$3,000	\$ 15,000
Rail, 100-lb Relay (176 tons/mile x 56.9 miles) @ \$300	3,004,320
Joints, 100-lb S.H. (320/mile x 56.9 miles) @ \$9.32	169,699
Bolts, Lock & Nuts, New (1,280/mile x 56.9 miles) @ \$2	145,664
Tie Plates, S.H. (6,000/mile x 56.9 miles) @ \$2.75	938,850
Spikes, New (12,000/mile x 56.9 miles) @ \$.36	245,808
Rail Anchors, New (3 240/mile x 56.9 miles) @ \$1.15	212,009
Turnouts, #9, 100-lb S.H., 19 @ \$10,000	190,000
Ballast (900 cu yd/mile x 56.9 miles) @ \$3.60	184,356
Unload Material, 56.9 miles @ \$2,200	125,180
Lay Rail, 56.9 miles @ \$15,000	853,500
Install Turnouts, 19 @ \$3,000	57,000
Surface and Line, 56.9 miles @ \$2,500	142,250
Work Road Crossings, 20 @ \$2,000	40,000
Bridge Repairs, 1 @ \$70,000	70,000
Subtotal	<hr/> \$6,393,636
Less Value of Material Released	600,864
Total Rehabilitation Cost	<hr/> \$5,792,772

SOURCE: Montana Department of Commerce

TABLE I-7
 AREA HIGHWAY IMPACT ESTIMATES
 North Dakota State Line to Whitetail

<u>HIGHWAY</u>	<u>SECTION</u>	<u>MILEAGE</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>		
			<u>EXISTING</u>	<u>INCREASE</u>	<u>% INCREASE</u>
FAP 30	Westby to Plentywood	24	52	6.9	13.2
FAP 22	Plentywood to Scobey	43	71	3.6	5.0
FAS 374	Outlook to Jct W/FAP 22	7	32	5.0	15.6
FAS 511	Whitetail to Flaxville	7	23	3.9	17.2
FAP 32	Scobey to Jct W/FAP 1	48	68	2.5	3.6
FAP 1	Jct W/FAP 32 to Wolf Point	7	348	2.5	0.7

Total Estimated Annual Highway Impact Cost: \$2,148,000

SOURCE: Montana Department of Highways
 Montana Department of Commerce

Alternatives Evaluated

Tables I-8 and I-9 list the economic evaluation of rehabilitation and acquisition/rehabilitation projects for this line.

Rehabilitation - The cost of this alternative is approximately \$5.8 million if the lightweight rail is replaced. The present value of project benefits is the net change in transportation costs that may occur if the line is abandoned. These benefits over a 10-year period are estimated at 23.3 million, and the present value of costs over the period are \$11.7 million. The ratio of benefits to costs is 1.99.

Rehabilitation/Acquisition

The rehabilitation costs for this project are the same as stated in the rehabilitation option. Acquisition costs (the value of the line) are estimated to be \$1.1 million. The present value of project benefits and costs is \$24.4 million, and \$12.8 million, respectively. The ratio of benefits to costs is 1.90.

Conclusions

The benefit/cost ratio of a potential rehabilitation project is over 1.0 due to the high benefits of the project. This branch is the only Soo Line property in the State, and its proximity to a BN branch provides some competition. Additionally, there are active rail users who would experience significant impacts of abandonment. For these two reasons, it is recommended that this branch be considered for a project if it ranks sufficiently high in relation to other potential projects.

TABLE I-8
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
North Dakota State Line to Whitetail

BENEFIT <u>TYPE</u>	<u>DESCRIPTION</u>	ESTIMATED <u>BENEFIT</u>
<u>Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -798,306
Truck/User	Annual Line Haul and Handling Cost	786,460
Other	Annual Highway Impact Cost	2,148,000
	Net Salvage Value of Rehabilitation Materials	2,156,686
<u>Acquisition/Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -798,306
Truck/User	Annual Line Haul and Handling Cost	786,460
Other	Acquisition Cost (Land and Track Materials)	-1,142,111
	Net Salvage Value of Rehabilitation Materials	2,156,686
	Annual Highway Impact Cost	2,148,000
	Liquidation Benefits	1,142,111

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE I-9
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
North Dakota State Line to Whitetail

<u>ALTERNATIVE PROJECT</u>	PROJECT <u>COST</u>	<u>PRESENT VALUE (1)</u>			BENEFIT /COST <u>RATIO</u>
		<u>BENEFIT</u>	<u>COST</u>	<u>NET</u>	
			(000's)		
Rehabilitation	\$5,792.8	\$23,337.1	\$11,728.4	\$11,608.6	1.99
Acquisition/ Rehabilitation	\$6,934.9	\$24,418.6	\$12,870.6	\$11,548.0	1.90

(1) Discount Rate - 4 Percent.
Project Life - 10 Years

SOURCE: Montana Department of Commerce

PHOSPHATE SPUR
Burlington Northern Railroad

The Phosphate Spur is approximately five miles long and is located eight miles from Garrison in Powell County. The only traffic on this line is loaded approximately one mile north of the connection with the BNRR's mainline. The rest of the line is abandoned. Figure J-1 illustrates the location of the Spur.

The status and issues for the Phosphate Spur can be summarized as follows:

- The 3.6 miles north of the existing loading site is abandoned.
- The first mile of the line handles a large volume of traffic.
- Abandoned portion used to serve a phosphate mine which has been closed for seven years. Mine site still has reserves which are currently not economical to mine.
- Current loading activity at Milepost 1 from another truck-served mine.

Rail Use

Approximately 2,000 carloads of phosphate rock were handled in 1983 at the current loading site as listed in Table J-1. The line segment which carries this traffic is not currently in danger of abandonment. Table J-2 lists the only shipper.

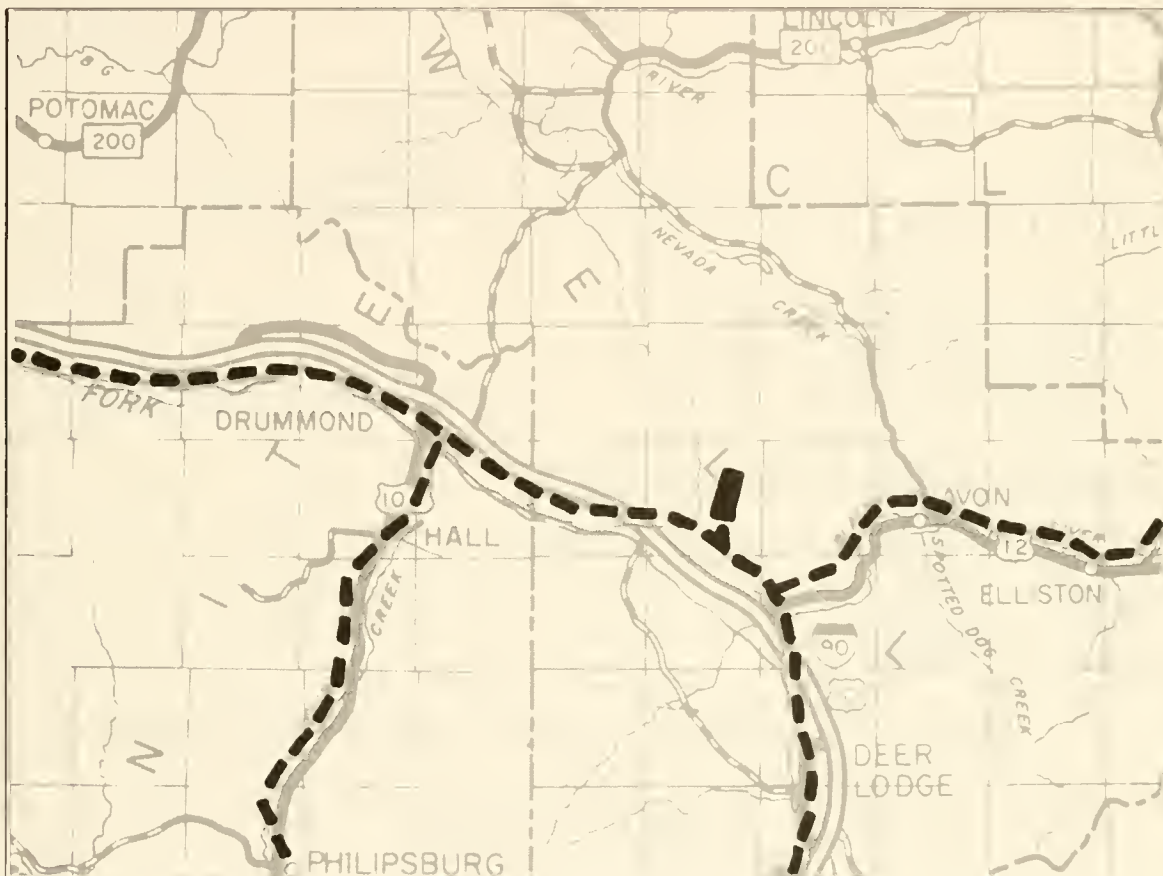
PHOSPHATE SPUR

RAILROAD : BURLINGTON NORTHERN

LENGTH : 3.6 MILES

COUNTIES : POWELL

STATUS : ABANDONED



0 10 20 30
MILES

LEGEND

SUBJECT LINE

ALL OTHER LINES

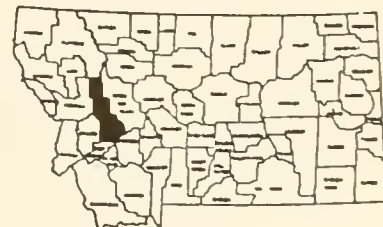


FIGURE J-1

TABLE J-1
RAILROAD USE STATISTICS - 1983
Phosphate Spur

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>COMMODITY</u>
	<u>NUMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
		<u>Originating</u>			
Milepost 1.0	2,000	100.0	190,000	100.0	Nonmetallic Minerals
		<u>Terminating</u>			
None					
Total Traffic	2,000	100.0	190,000	100.0	

1983 Statistical Summary
Length: 3.5 Miles
Carloads Per Week: 38.4
Carloads Per Mile: 2,000

Traffic Volume History (Estimated)

1976	1,900
1977	1,900
1978	1,900
1979	1,900
1980	2,200
1983	2,000

NOTE: This traffic would not be affected by a potential abandonment.

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

TABLE J-2
RAILROAD USERS
Phosphate Spur

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Cominco	Milepost 1	P	Nonmetallic Minerals

(1) P Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Montana Department of Commerce

Rail Service

This short spur connects with the BNRR's mainline which runs to Sandpoint, Idaho. The service frequency for the loading site is four days a week from April through October. The portion of the line that may be abandoned is not used.

Highways

Access to Interstate 90 and the BNRR mainline from the subject line is provided by a paved county road. Figure J-1 illustrates the locations of primary and secondary highways. None of the existing truck traffic to the loading site uses the Interstate.

Rail Inventory and Condition

The Phosphate Spur is composed of heavy rail with the portion still in service exhibiting curve wear and poor rail ends. The remainder also has some poor rail ends. Ties on the line are generally in fair condition. The timetable speed is 20 mph, but most of the line is out of service. The estimated net liquidation value (including land and track material) of the segment that may be abandoned is \$396,671. Details are provided in Table J-3.

Effects of Abandonment

Railroad - The assets of this line (\$396,671) can now be used by the BNRR elsewhere since the line has been abandoned. The first mile of the line will continue to be served.

Rail Users - The only rail user on the Phosphate Spur trucks its product from an off-line mine site. Therefore, this traffic is not affected by an abandonment. However, the company's mine at the end of the line could be reopened as

TABLE J-3
LINE FACILITIES CONDITION
Phosphate Spur

Mileposts	- 0.0 - 4.7 (Out of service beyond milepost 1.1)
Rail	- Approximately 0.5 miles of 115-lb rail, 3.7 miles of 131-lb rail, and 0.5 miles of 100-lb rail; 115-lb rail at mainline is in fair condition, 131-lb rail within the heavily used segment near mainline is curve worn and with poor rail ends, and the remaining portion of 131-lb is generally good except for scattered segments with poor rail ends or curve worn rail that has been transposed.
Ties	- Treated mixed hardwoods and softwoods in fair condition.
Tie Plates and Rail Anchors	- Fully plated with both double and single shoulder plates; rail anchors throughout, generally adequate.
Ballast	- Rock over dirt.
Road Crossing	- One (1) paved.
Roadbed/ Ditching	- Roadbed width adequate; no significant drainage problems, except ditches need to be cleaned when service is restored to entire line.
Vegetation	- Track and roadbed clear of vegetation between mainline connection and point where track has been taken out of service (approximately milepost 1.1); from this point to the end of the line weeds and grass on roadbed.

Timetable

Speed - 20 mph (Out of service beyond milepost 1.1)

Weight

Restrictions - 263,000 lb gross weight

Net

Liquidation - \$382,430 (track material), \$14,241 (land)

SOURCE: Montana Department of Commerce

higher grade material is depleted at other sites. The rail user survey did not reveal a definite reopening date, but a company spokesman indicated that the mine may begin operations in two or two and one-half years.

The Cominco Co. has acquired the abandoned right-of-way from the BNRR. The railroad will salvage the track materials. The company plans to use the right-of-way as a truck haul route when the mines near the end of the road begin operations. The ore will be trucked down this right-of-way to the loading site at M.P. 1.

Highways - The current loading activity at Milepost 1 is the result of the mining activity at an off-line site. Therefore, this truck traffic is unaffected by the abandonment. The abandonment is the result of an external factor, the closure of the mine at the end of the line. When the mines at the end of the line open, the ore will be trucked to M.P.1 over the abandoned right-of-way. For this reason, there is no highway impact of abandonment.

Conclusions

It appears that the Cominco Co. and the BNRR have negotiated an agreement regarding the abandonment of the line that is acceptable to both parties. The railroad will salvage the track materials and the Cominco Co. will use the right-of-way for a truck haul route. It is estimated that the mines near the end of the abandoned line will begin operations in two to two and one-half years. Under these circumstances state involvement in this line is not necessary.

SACO TO LORING
Proposed Shortline Operation

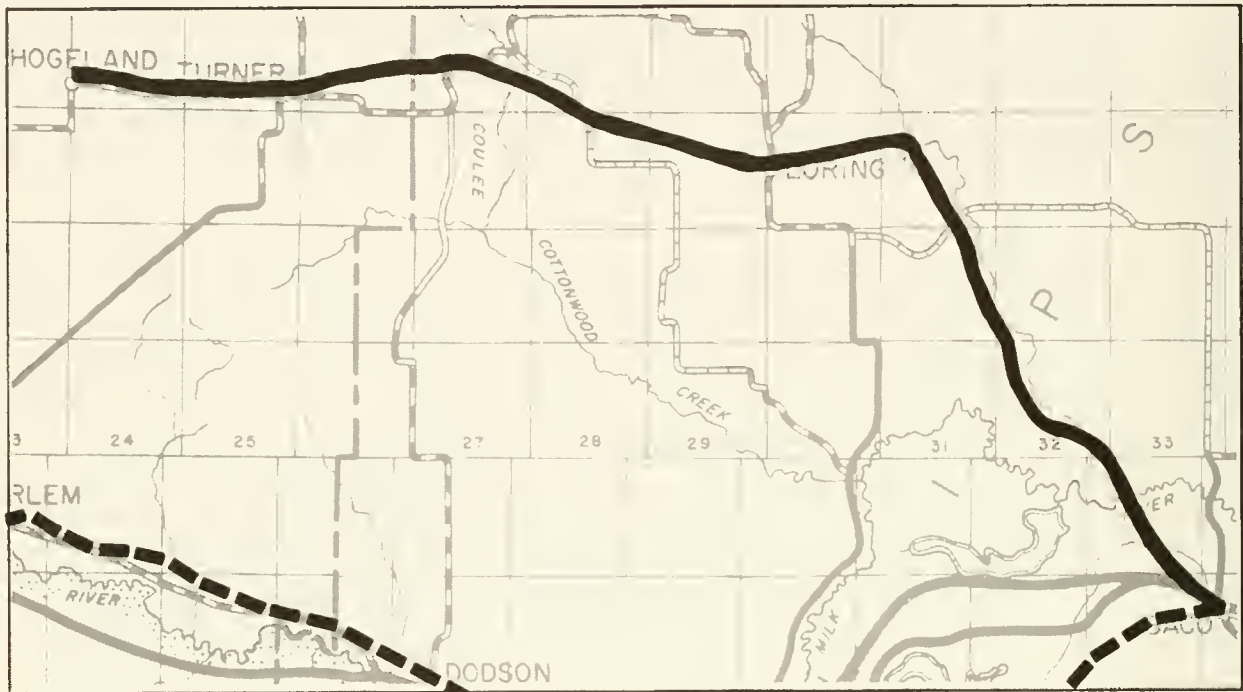
This branchline originally extended from Saco to Hogeland, a distance of 79.3 miles. The line was abandoned by the BNRR in August of 1983. The location of the line and area highways are shown in Figure K-1.

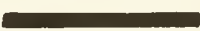
The status and issues concerning this line are as follows:

- There are no public grain warehouses on the branchline.
- Shippers have converted to trucking to the BNRR mainline in Saco, Malta, Harlem, and Havre. Saco and Malta receive some wheat and feed barley for milling. Harlem and Havre have 52 car unit train loading facilities and receive the majority of the wheat shipments. Havre is 46 miles from Harlem and a 52 car single origin rate of 8¢ per cwt exists between the two locations.
- Farmers in the Whitewater area use trucks to move grain over State Highway 242 to Malta and U.S. Highway 2 to Harlem and Havre. Loss of rail service has not affected the volumes of grain moving out of this area, and over half of the farmers interviewed for this report have invested in semitrailer-tractor combinations to move their grain to the BNRR mainline.
- Farmers in the Loring area truck south on State Highway 242 to Malta and east on U.S. Highway 2 to Harlem and Havre, or west to State Highway 241 to Turner and south to Harlem. Loss of rail service apparently has had a minimal impact on these shippers

SACO TO HOGELAND

RAILROAD: BURLINGTON NORTHERN
 LENGTH: 79.3 MILES
 COUNTIES: PHILLIPS, BLAINE
 STATUS: ABANDONED



SUBJECT LINE 

ALL OTHER LINES 



and most hire local independent semi truckers to haul grain to the BNRR mainline.

- Residents in the area voiced a great deal of concern over impacts of increased numbers of trucks on local roads and highways. The Phillips County Commissioners in Malta stated that if monies were available to address grain transportation problems in the area, it should be spent on the road system.
- The total annual highway impact cost resulting from the abandonment of the Saco to Loring section of the branchline is estimated to be \$147,032. As shown in Table K-1, increases in average daily truck traffic range from 0.4 percent to 5.8 percent.

TABLE K-1
AREA HIGHWAY IMPACT ESTIMATES
Saco to Loring

<u>HIGHWAY</u>	<u>SECTION</u>	<u>MILEAGE</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>		
			<u>EXISTING</u>	<u>INCREASE</u>	<u>%INCREASE</u>
FAS 242	Loring-Malta	38	25	1.46	5.8
FAP-1	Malta-Harlem	46	328	1.46	0.4

Total Estimated Annual Highway Impact Cost: \$147,032

SOURCE: Montana Department of Highways
 Montana Department of Commerce

Proposed Shortline Operation

The following is an analysis of a shortline operation that would extend from Saco on the BNRR mainline to Loring, a distance of 39 miles. Below are listed the assumptions upon which this analysis is based.

1. Line rehabilitation completed for 25 mph operations of C-6 100 ton covered hopper cars with gross weight of 263,000 lbs.
2. One GP-9 locomotive or equivalent will be provided in serviceable condition.
3. Reasonable amount of equipment will be available to service track including motorized vehicles and hand tools.
4. Grain service to operate as needed.
5. A minimum of 150 grain cars will originate yearly.
6. Revenue will be derived from a 15% division of revenue and 10 cent per hundred weight surcharge on originating traffic.
7. Part time employees will be available for train operation and locomotive maintenance.

Table K-2 shows the initial investment that would be necessary to start the shortline. The largest cost items would be for rehabilitation (\$896,500) and acquisition (\$200,000).

It should be noted that this rehabilitation figure is considered to be the bare minimum expenditure necessary to place the line in serviceable condition. The expenditure that would be required to replace the lightweight rail and to upgrade the line for the long term to accommodate 100 ton hoppers to a Class II level of operation (25 mph) would exceed \$5.0 million.

Table K-3 lists the estimated revenues and costs that would result from shortline operations based on 150 cars per year. Income to the branch would come from a 15% division of revenue and a 10¢ per cwt surcharge, totalling \$94,800. Operating costs on the line are estimated to be \$147,612, leaving the shortline with a loss of \$52,812.

TABLE K-2
SACO - LORING INITIAL INVESTMENT
39 Miles

1.	Line Acquisition	\$ 200,000
2.	Line Rehabilitation	
a.	Ties - 200 per mile @ \$40 ea.	312,000
b.	Ballast 500 Cu. Yds. per mile @ \$4 cu. yd.	78,000
c.	Surface and Line \$3,500 per mile	136,500
d.	Miscellaneous (weed control, rail, anchors, tie plates, spikes and bridges)	195,000
e.	Build connections at Saco	175,000
3.	Locomotives	
a.	2 - GP-9 @ \$25,000 ea.	50,000
4.	Rolling Stock	
	Wedge Plow	10,000
5.	Track Repair Equipment	
	Hi-rail truck tools	75,000
6.	Track Inventory	10,000
7.	Start-Up Capital	48,000
		<hr/>
	TOTAL	\$1,289,500

SOURCE: Montana Department of Commerce

TABLE K-3
ESTIMATED REVENUE AND COST
Saco to Loring

1.	Income to Branch (Line 1a + 1b)	\$ 94,800
a.	150 cars x \$2,880 per car X	
	15% division	\$64,800
2.	On-Branch Costs (Line 2a Through 2c)	\$147,612
a.	Operations	\$41,400
b.	Mechanical	\$25,824
c.	Maintenance of Way	\$80,388
3.	Avoidable Loss from Operations	
	Line 2 - Line 1	\$ 52,812

SOURCE: Montana Department of Commerce

The results of a benefit/cost analysis of the shortline operation option are shown in Tables K-4 and K-5.

The project cost of this alternative is \$1.1 million. The net present value of benefits is \$2.2 million, and the present value of costs is \$2.2 million, resulting in a benefit/-cost ratio of 1.00 and a net present value of \$10,000.

Conclusion

Although the Saco to Loring shortline alternative generated a benefit/cost ratio of 1.00 and a net present value of \$10,000, there are other items to consider when evaluating the feasibility of this option. A sufficient number of car-loadings to offset operating costs is a crucial element in this project evaluation.

There are no longer any public grain warehouses on the branchline. This means that growers in the area would be required to cooperate with one another and schedule an agreed upon time to load cars each time a shipment was to be made. Whether growers in the area would be willing to cooperate in this manner over the long term every time cars were to be loaded is speculative. This problem could be circumvented by purchasing covered hoppers and using them as storage facilities while they sat on the track until a unit train was loaded. Private cars would also eliminate the accumulation of car per diem charges. However, it is estimated that purchasing the required number of 52 cars to create a unit train could cost several million dollars.

The operating scenario proposed here assumes that shippers in the Whitewater - Loring area would load 150 cars on an annual basis. It should be noted that although it is possible that 150 cars could be loaded every year, car loading records indicate that carloadings have usually been lower. Below is

TABLE K-4
DISTRIBUTION OF BENEFITS
Saco to Loring

BENEFIT TYPE	DESCRIPTION	ESTIMATED BENEFIT
<u>Saco to Loring, Acquisition/Rehabilitation/ Shortline Operation Alternative</u>		
Railroad/ Operator	Annual Operating Cost Savings	\$ -147,612
Truck/User	Annual Line Haul and Handling Cost	130,500
Other	Acquisition Cost (Land and Track Materials)	-200,000
	Annual Highway Impact Cost	147,032
	Liquidation Benefits	200,000

SOURCE: Montana Department of Commerce

TABLE K-5
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Saco to Loring

<u>ALTERNATIVE PROJECT</u>	PROJECT <u>COST</u>	<u>PRESENT VALUE (1)</u>			BENEFIT/ COST
		<u>BENEFIT</u>	<u>COST</u>	<u>NET</u>	<u>RATIO</u>
		(000's)			
Shortline Operation	\$1,096.5	\$2,204.1	\$2,194.0	\$10.0	1.00

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

SOURCE: Montana Department of Commerce

listed the traffic levels at all stations between Saco and Loring.

Traffic Statistics 1973-1982
Saco to Loring

<u>Year</u>	<u>Total Carloads</u>
1973	96
1974	149
1975	129
1976	139
1977	94
1978	137
1979	91
1980	154
1981	57
1982	0

SOURCE: Burlington Northern Railroad

If the rates on the shortline are to be attractive to shippers, the shortline must be able to obtain a 52 car rate. If 150 cars are loaded each year, a total of 3 trains annually will be moved on the line. It must be questioned if it is prudent to invest in a line to provide service to an area once every four months when alternative transportation exists.

A financial analysis reveals that at a 15% division of revenue and a 10¢ per cwt surcharge, 150 cars a year would produce a loss of \$52,812. Many of the costs associated with operating the line are fixed or vary only slightly with changes in traffic. If traffic levels fall much below the projected 150 cars, the financial loss associated with the operation would increase rapidly. In such a case, continued operation of the line would require a subsidy.

It is concluded that this line not be considered for project funds unless it ranks high in relation to other projects in this report.

SIPPLE TO LEWISTOWN
Burlington Northern Railroad

When complete, this 24 mile branchline will extend from Sipple near the BNRR mainline to Lewistown as shown in Figure L-1.

The status and issues concerning the branchline are as follows:

- Light density branchline not identified for abandonment.
- The BNRR has agreed to build a connecting line between Sipple and Moore in 1985.
- It is expected that contingent upon the construction of the Sipple to Moore connection, a grain subterminal will be built in Moore.

Rail Use

As shown in Table L-1, a variety of commodities are shipped on this line. Wood chips, wood products, and grain account for over 80% of the traffic. Most of the users in the Lewistown area ship or receive only a few cars annually. Of the eleven Lewistown users identified, only two have received or shipped more than six carloads in 1983. Rail users are listed in Table L-2.

Rail Service

This analysis will utilize 1983 commodity movement data from stations at Moore and Lewistown to estimate revenues and costs that will be generated after the Sipple to Moore connection is built.

SIPPLE TO LEWISTOWN

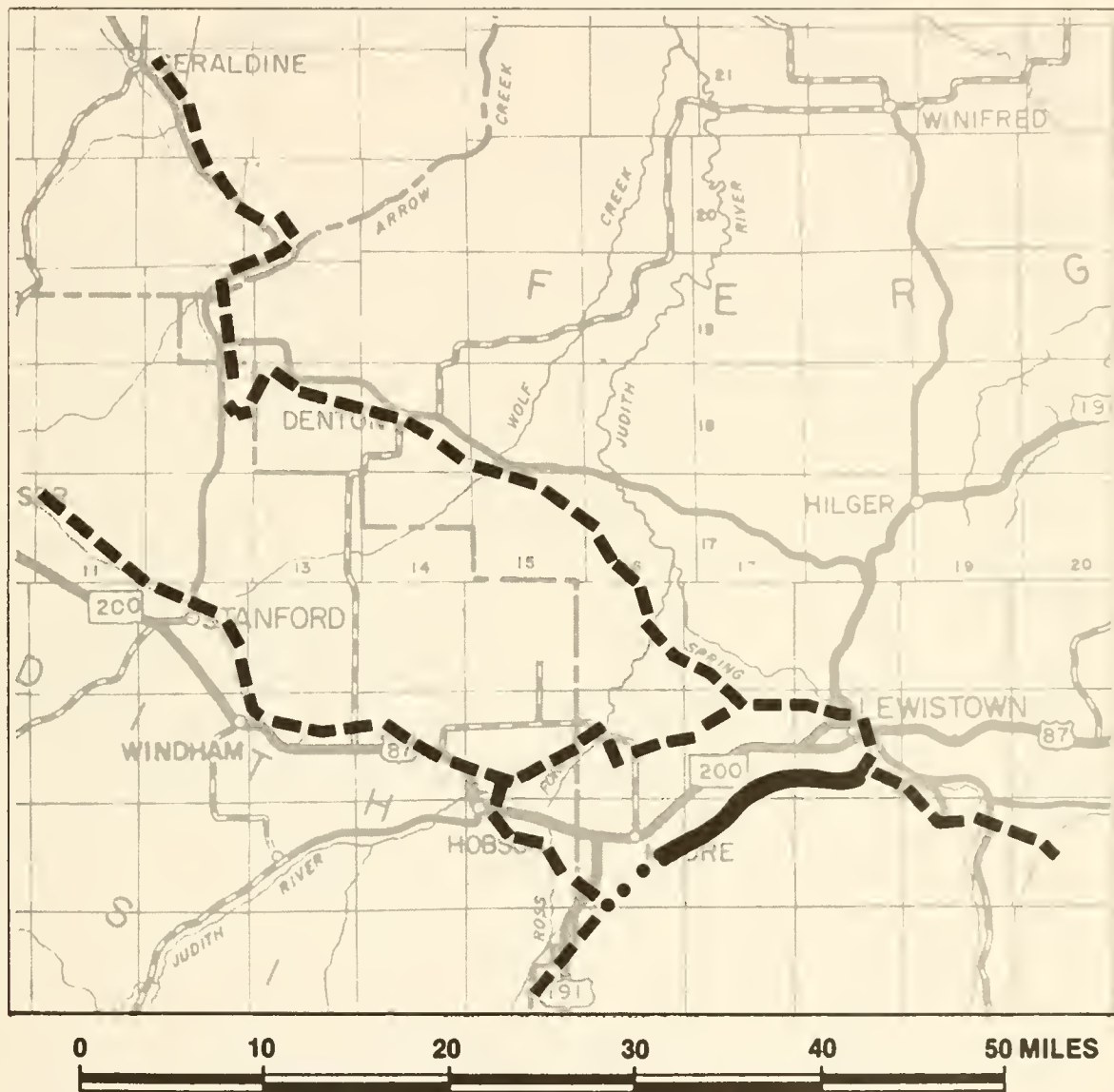
RAILROAD: CENTRAL MONTANA RAIL

LENGTH: 23 MILES

COUNTIES: FERGUS, CHOUTEAU

STATUS: LIGHT DENSITY LINE

PROPOSED FOR 1985 CONSTRUCTION SEASON



SUBJECT LINE **—————**
 ALL OTHER LINES **- - - - -**
 PROPOSED FOR 1985
 CONSTRUCTION SEASON **.....**

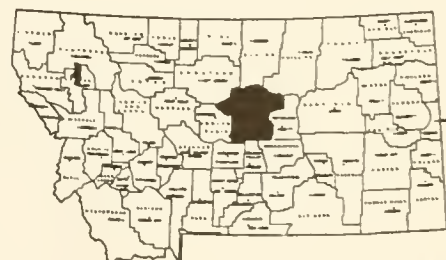


TABLE L-1
RAILROAD USE STATISTICS 1983
Sipple to Lewistown

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>COMMODITY</u>
	<u>NUMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
<u>Originating</u>					
Lewistown	6	1.3	360	7.2	Scrap
	135	29.1	13,500	27.2	Wood Chips
	17	3.7	1,030	2.1	Grain
	132	28.4	13,200	26.6	Wood Products
Moore	117	25.2	17,710	35.7	Grain
<u>Terminating</u>					
Lewistown	10	2.1	992	1.9	Dry Fert.
	2	0.4	154	3.1	Dry Fert.
	14	3.0	151	3.0	Machinery
	5	1.0	37	0.07	Furniture
Moore	26	5.6	2,500	5.0	Dry Fert.
TOTAL	464	100.0	49,634	100.0	

SOURCE: Montana Department of Commerce

TABLE L-2
RAILROAD USERS
Sipple to Lewistown

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Berg Lumber	Lewistown	P	Wood Chips, Wood Products
Moodie Implement	Lewistown	T	Machinery
Wier Furniture	Lewistown	T	Furniture
Agribasics Company	Lewistown	P	Chemicals
Cenex	Lewistown	P	Chemicals
Lewistown Propane Company	Lewistown	P	Chemicals
Cargill, Inc.	Lewistown	P	Grain
AK Equipment	Lewistown	T	Machinery
Fergus Equipment Co., Inc.	Lewistown	T	Machinery
Pacific Iron and Steel	Lewistown	P	Scrap
Serve-Ur-Self Furniture	Lewistown	P	Furniture
Moore Farmers Oil Company	Moore	P	Chemicals
Peavey, Inc.	Moore	P	Grain
Agribasics Company	Moore	P	Chemicals

(1) P - Private Or Leased Siding On Premises
T - Team Track

SOURCE: Montana Department of Commerce

This analysis assumes rail service twice a week at a timetable speed of 25 mph. The estimated revenues and costs associated with the Sipple to Lewistown line are illustrated in Table L-3. Using 1983 traffic data, the line would produce a profit of \$216,252. Revenues on the line are \$904,302, and on and off-branch operating costs (including opportunity costs) totalled \$688,050.

Highways

Federal Aid Primary Highway 57 parallels the line and connects Lewistown and Moore. The same highway connects Moore with the BNRR station at Moccasin. This distances from Lewistown and Moore to other BNRR stations are listed in Table 4.

TABLE L-4
DISTANCE TO SELECTED RAILROAD STATIONS
Sipple to Lewistown

<u>TOWN</u>	<u>RAIL STATION</u>	<u>RAILROAD</u>	<u>DISTANCE</u> (Miles)
Moore	Moccasin	BN	13
Lewistown	Moccasin	BN	27
	Sipple	BN	19

Rail Inventory and Condition

Table L-5 reveals the results of an inspection of the Moore to Lewistown section of the line. The line appears to be in fair to good condition.

Rehabilitation Costs

Approximately \$1.1 million is needed to rehabilitate the line. Major cost items include installing heavier rail and new cross ties. Table L-6 provides details.

TABLE L-3
ESTIMATED REVENUES AND COSTS
Sipple to Lewistown

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$ 904,302
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 269,324
a. Maintenance of Way and Structures (Normalized)	144,000
b. Transportation	69,125
c. Maintenance of Equipment	56,199
3. Off-Branch Costs	<u>198,361</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$ (467,685) (1)
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ 436,617
6. Net Liquidation (Line 6a + Line 6b)	\$1,020,210
a. Materials	905,232
b. Land	114,978
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	220,365
9. Total Avoidable Loss (Line 5 + Line 8)	\$ (216,252) (1)

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

TABLE L-5
 LINE FACILITIES CONDITION
 Lewistown to Moore

Mileposts	- 63.0 - 43.4
Rail	- .5 miles of 100-lb rail, 12.1 miles of 90-lb rail, and 5 miles of 75-lb rail, generally in good condition.
Ties	- Treated mixed hardwoods and softwoods, generally in fair condition.
Tie Plates	- Fully plated with single shoulder tie and rail anchors plates; varying number of rail anchors with scattered areas where rail is running due to insufficient anchors.
Ballast	- Pit run gravel and dirt.
Bridges	- Nine (9) bridges.
Road Crossings	- Twenty-seven (27); thirteen (13) paved, fourteen (14) unpaved.
Roadbed/ Ditching	- Generally adequate.
Vegetation	- Scattered locations of grass and weeds in ballast section.
Timetable Speed	- 25 mph

Weight

Restrictions - 263,000 lb gross weight.

Net

Liquidation - Track material \$465,432, land \$53,328

SOURCE: Montana Department of Commerce

TABLE L-6
REHABILITATION COST ESTIMATE
LEWISTOWN TO MOORE

Ditching, 5 days @ \$450	\$ 2,250
Rail, 100-lb Relay (176 tons/mile x 5.0 miles) @ \$300	264,000
Joints, 100-lb S.H. (320/mile x 5.0 miles) @ \$9.32	14,912
Bolts, Locks and Nuts, New (1,280/mile x 5.0 miles) @ \$2	12,800
Tie Plates, S.H. (6,000/mile x 5.0 miles) @ \$2.75	82,500
Spikes, New (12,000/mile x 5.0 miles) @ \$.36	21,600
Rail Anchors, New (3,240/mile x 5.0 miles) @ \$1.15	18,630
Crossties, New (1,000/mile x 17.6 miles) @ \$18	316,800
Ballast (900 cu yd/mile x 17.6 miles) @ \$3.60	57,024
Spikes, New (4,000/mile x 12.6 miles) @ \$.36	18,144
Unload Material, 5.0 miles @ \$3,000	15,000
Unload Material, 12.6 miles @ \$2,200	27,720
Lay Rail, 5.0 miles @ \$15,000	75,000
Timber and Surface, 17.6 miles @ \$10,500	184,800
Work Road Crossings, 8 @ \$2,000	16,000
Turnouts #10, 100-lb S.H., 2 @ \$10,000	20,000
Install Turnouts, 2 @ \$3,000	6,000
Subtotal	<hr/> \$1,153,180
Less Value of Materials Released	52,800
Total Rehabilitation Cost	<hr/> \$1,100,380

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad -- Assuming the completion of the Sipple to Moore connection and 1983 traffic levels, this line would produce a profit for the railroad. Abandonment in the near future is not expected as the line has not been identified for abandonment, and because Lewistown will soon be served via the new connection between Moore and Sipple.

Rail Users - Shippers would be adversely affected by an abandonment. Lewistown is an important business and population center in Central Montana. Loss of rail service could discourage potential new business from locating in the area. The economic costs of trucking commodities that now move by rail to and from final destinations are considerably greater.

Highways - The expected increase in truck traffic on area highways is listed in Table L-7. The increase over existing levels of average daily truck traffic ranges from 0.5 percent to 1.7 percent. The annual estimated highway impact costs that would result from abandonment are \$53,977.

TABLE L-7
AREA HIGHWAY IMPACT ESTIMATES
Sipple to Lewistown

<u>HIGHWAY</u>	<u>SECTION</u>	<u>MILEAGE</u>	<u>AVERAGE DAILY TRUCK TRAFFIC</u>		
			<u>EXISTING</u>	<u>INCREASE</u>	<u>% INCREASE</u>
FAP-57	Lewistown-Moore	28	265	1.7	0.5
FAP-57	Moore-Moccasin	13	261	4.5	1.7

Total Estimated Annual Highway Impact Cost: \$53,977

SOURCE: Montana Department of Highways
Montana Department of Commerce

Alternatives Evaluated

Tables L-8 and L-9 list the results for the rehabilitation and the acquisition/rehabilitation alternatives for this line.

Rehabilitation - The cost of rehabilitation for this line is approximately \$1.1 million. The net present value of benefits over a ten year period is \$10.0 million, and the present value of cost is \$6.2 million. The net present value of the project is \$3.8 million, and the benefit/cost ratio is 1.62.

Acquisition/Rehabilitation - The implementation of this project would cost approximately \$2.1 million. The net present value of benefits is \$10.8 million, while the net present value of costs is \$7.2 million, resulting in a benefit/cost ratio of 1.5 and net present value of \$3.5 million.

Conclusions

Loss of rail service to the Lewistown area would increase transportation costs to shippers now using rail and could jeopardize the area's business development potential. However, abandonment in the near future is not expected, as trains will soon move into Lewistown over the Sipple to Moore connection. If the Lewistown area is threatened with the loss of rail service in the future, alternatives to continue rail service should be investigated.

TABLE L-8
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Sipple to Lewistown

BENEFIT		ESTIMATED
<u>TYPE</u>	<u>DESCRIPTION</u>	<u>BENEFIT</u>
<u>Moore to Lewistown Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -489,690
	Annual Cost Savings Off-Branch	-198,361
Truck/User	Annual Line Haul Cost	1,270,529
Other	Annual Highway Impact Cost	53,977
	Net Salvage Value of Rehabilitation	
	Materials	295,390

Sipple to Lewistown Acquisition,
Moore to Lewistown Rehabilitation Alternative

Railroad	Annual Cost Savings On-Branch	\$ -489,690
	Annual Cost Savings Off-Branch	-198,361
Truck/User	Annual Line Haul Cost	1,270,529
Other	Acquisition Cost (Land and Track	
	Materials)	-1,020,210
	Annual Highway Impact Cost	53,977
	Net Salvage Value of Rehabilitation	
	Materials	295,390
	Liquidation Benefits	1,020,210

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE L-9
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Sipple to Lewistown

<u>ALTERNATIVE PROJECT</u>	<u>PROJECT COST</u>	<u>PRESENT VALUE (1)</u>			<u>BENEFIT/ COST RATIO</u>
		<u>BENEFIT</u>	<u>COST</u>	<u>NET</u>	
		(000's)			
Rehabilitation					
Moore to					
Lewistown	\$1,100.4	\$10,056.1	\$5,216.3	\$3,839.8	1.62
Acquisition					
Sipple to					
Lewistown/					
Rehabilitation					
Moore to					
Lewistown	\$2,120.6	\$10,828.8	\$7,236.5	\$3,592.3	1.50

(1) Discount Rate - 4 Percent.
Project Life - 10 Years.

SOURCE: Montana Department of Commerce

WHITEHALL TO ALDER
Burlington Northern Railroad

This light density branchline extends 45.6 miles south from Whitehall to Alder as illustrated in Figure M-1. There are two stations on the line, Sheridan and Alder. Nearly all of the traffic moved on the line originates at Alder.

The status and issues concerning the line are summarized below:

- Light density line not identified for abandonment.
- Area highways would be significantly impacted from additional truck traffic if line were abandoned.
- Nonmineral commodity movements have decreased in recent years.

Rail Use

The major railroad user on the line is Cyprus Industries, a talc and chloride mining company which ships out of Alder. Other commodities moved on the line include fertilizer and machinery and are listed in Table M-1. Four rail users were identified from the shipper survey and are listed in Table M-2.

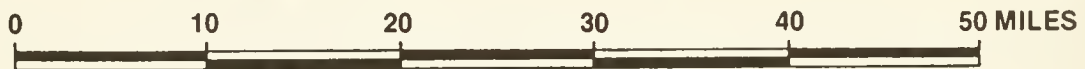
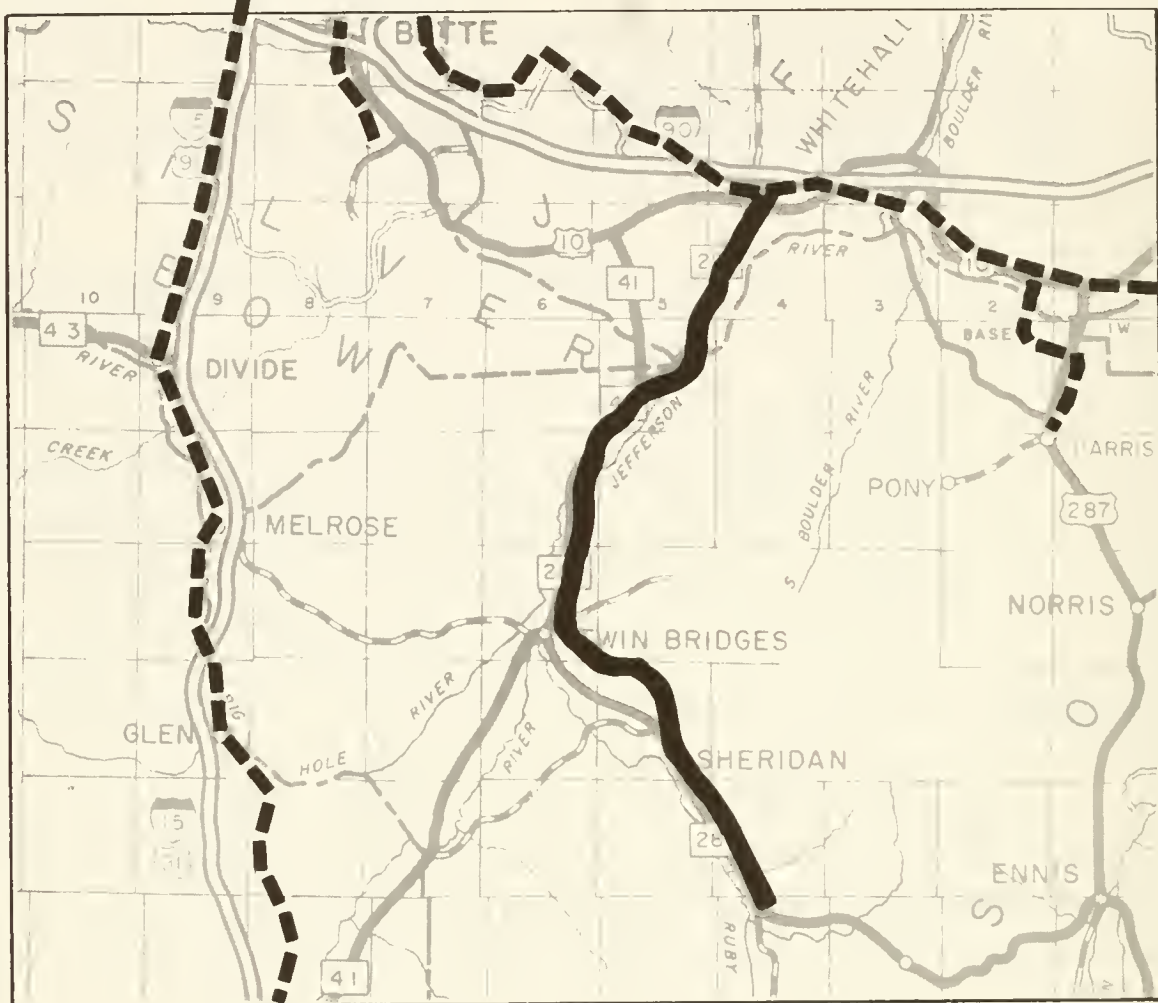
Rail Service

Stations on this line are served twice a week. The timetable speed is between 15 and 40 mph.

An estimate of the revenues and costs associated with the Whitehall to Alder line is provided in Table M-3. The line generates approximately \$3.1 million in revenue. On-branch

WHITEHALL TO ALDER

RAILROAD: BURLINGTON NORTHERN
 LENGTH: 45.6 MILES
 COUNTIES: JEFFERSON, MADISON
 STATUS: LIGHT DENSITY LINE



SUBJECT LINE 
 ALL OTHER LINES 



TABLE M-1
RAILROAD USE STATISTICS - 1983
Whitehall to Alder

<u>STATION</u>	<u>CARLOADS</u>		<u>TONS</u>		<u>COMMODITY</u>
	<u>NUMBER</u>	<u>PERCENT</u>	<u>NUMBER</u>	<u>PERCENT</u>	
<u>Originating</u>					
Alder	1,116	98.9	67,115	98.8	Nonmetallic Minerals
<u>Terminating</u>					
Alder	1	0.08	60	0.08	Machinery
Sheridan	7	0.6	688	1.0	Dry Fert.
Sheridan	4	0.3	40	0.05	Machinery
TOTAL	1,128	100.0	67,903	100.0	

1983 Statistical Summary

Length: 45.6 Miles
 Carloads Per Week: 21.69
 Carloads Per Mile: 24.73
 Revenue: \$3,152,317

SOURCE: Montana Department of Commerce

TABLE M-2
RAILROAD USERS
Whitehall to Alder

<u>NAME</u>	<u>STATION</u>	<u>SIDING (1)</u>	<u>COMMODITY</u>
Hamler Motors	Sheridan	T	Machinery
Williams Feed	Sheridan	P	Chemicals
Cyprus Industrial Minerals Co.	Alder	P	Nonmetallic Minerals
Southmont Tractor	Dillon	T	Machinery

(1) P - Private Or Leased Siding On Premises.
T - Team Track

SOURCE: Burlington Northern Railroad
Montana Department of Commerce

TABLE M-3
ESTIMATED REVENUES AND COSTS
Whitehall to Alder

<u>REVENUES ATTRIBUTABLE</u>	<u>YEAR 1983</u>
1. Freight Originated And/Or Terminated On-Branch	\$3,152,317
<u>AVOIDABLE COSTS</u>	
2. On-Branch Costs (Lines 2a Through 2c)	\$ 593,499
a. Maintenance of Way and Structures (Normalized)	273,600
b. Transportation	153,249
c. Maintenance of Equipment	166,650
3. Off-Branch Costs	<u>641,042</u>
4. Total Avoidable Costs (Line 2 + Line 3)	\$1,234,541
5. Avoidable Loss from Operations (Line 1 - Line 4)	\$ (1,917,776) (1)
6. Net Liquidation (Line 6a + Line 6b)	\$ 649,420
a. Materials	566,520
b. Land	82,900
7. Rate of Return	21.6%
8. Opportunity Cost Foregone (Line 6 x Line 7)	140,274
9. Total Avoidable Loss (Line 5 + Line 8)	\$ (1,777,502) (1)

(1) Parenthesis Indicates Gain

SOURCE: Montana Department of Commerce

costs on the line are estimated at \$0.7 million (including opportunity costs) and off-branch costs at \$0.6 million. The line produced a profit of \$1.7 million in 1983.

Highways

This branchline is paralleled by Federal Aid Primary Highway 29 from Alder to a junction north of Silver Star and by Federal Aid Primary Highway 55 from this junction north to Whitehall. Highway distances from stations on the branchline to alternate stations are listed in Table M-4.

TABLE M-4
DISTANCE TO SELECTED RAILROAD STATIONS
Whitehall to Alder

<u>TOWN</u>	<u>RAIL STATION</u>	<u>RAILROAD</u>	<u>DISTANCE</u> (Miles)
Sheridan	Whitehall	BN	32
	Dillon	UP	37
Alder	Three Forks	BN	70
	Dillon	UP	48

SOURCE: Montana Department of Commerce

Rail Inventory and Condition

There are three weights of rail on this branchline, ranging from 56 to 90 pound rail. For long term operation, the 56 pound rail should be replaced. Details are shown in Table M-5.

Rehabilitation Costs

Table M-6 indicates that approximately \$2.4 million would be needed to rehabilitate this branchline. The most expensive item is the replacement of lightweight rail.

TABLE M-5
LINE FACILITIES CONDITION
Whitehall to Alder

Mileposts	- 0.0 - 45.6
Rail	- 2.1 miles of 85-lb rail, 22.9 miles of 90-lb CWR, 20.0 miles of 56-lb rail, and 0.6 miles of 90-lb jointed rail.
Ties	- Treated softwoods, good condition under CWR and generally fair under light rail.
Tie Plates and Rail Anchors	- Fully plated with single and rail shoulder plates on CWR, approximately 65% of 56-lb rail plated with single shoulder plates. CWR has adequate anchors, some of 56-lb rail is running due to insufficient anchors.
Ballast	- Crushed rock ballast over cinders.
Bridges	- Nineteen (19) bridges, all appear in good condition.
Road Crossings	- Sixteen (16); five (5) paved, eleven (11) unpaved.
Roadbed/ Ditching	- Roadbed is generally adequate for this type of service; no side drainage blocked.
Vegetation	- Scattered locations of weeds and grass growing in ballast section.

Timetable

Speeds - Whitehall and milepost 24.0, 40 mph; Alder and milepost 24.0 westward, 20 mph; Alder and milepost 24.0 eastward, 15 mph.

Weight

Restriction - 263,000 lb gross weight.

Net

Liquidation - \$566,520 (track material), \$82,900 (land)

SOURCE: Montana Department of Commerce

TABLE M-6
REHABILITATION COST ESTIMATE
WHITEHALL TO ALDER

Rail, 100-lb Relay (176 tons/mile x 20.6 miles) @ \$300	\$1,087,680
Joints, 100-lb S.H. (320/mile x 20.6 miles) @ \$9.32	61,437
Bolts, Locks, and Nuts (1,280/mile x 20.6 miles) @ \$2	52,736
Tie Plates, S.H. (6,000/mile x 20.6 miles) @ \$2.75	339,900
Spikes, New (12,000/mile x 20.6 miles) @ \$.36	88,992
Rail Anchors, New (3,240/mile x 20.6 miles) @ \$1.15	76,756
Crossties, New (700/mile x 20.6 miles) @ \$18	259,560
Ballast (900 cu yd/mile x 20.6 miles) @ \$3.60	66,744
Turnouts, #9, 100-lb S.H., 3 @ \$10,000	30,000
Unload Material, 20.6 miles @ \$2,800	57,680
Lay Rail, 20.6 miles @ \$15,000	309,000
Timber and Surface, 20.6 miles @ \$8,550	176,130
Install Turnouts, 3 @ \$3,000	9,000
Work Road Crossings, 12 @ \$2,000	24,000
Subtotal	<hr/> \$2,639,615
Less Value of Material Released	164,800
Total Rehabilitation Cost	<hr/> \$2,474,815

SOURCE: Montana Department of Commerce

Effects of Abandonment

Railroad - This line produces a profit for the railroad, and the line is currently not identified for abandonment. However, according to a Cyprus Co. spokesperson, the BNRR may be willing to negotiate contract rates for the Cyprus Co. at Three Forks so that an abandonment would not close the mines. If the railroad loaded the talc and chloride at Three Forks, it could maintain existing traffic levels and avoid the \$733,774 costs associated with operating on the branch.

Rail Users - According to the Cyprus Co. estimates, abandonment of this branchline would cost the company \$2.0 million to relocate talc processing facilities to Three Forks. Other shippers/receivers on the line would probably move commodities now moved by rail entirely by truck. The estimated truck costs plus annualized capital expenses attributable to accommodating the use of trucks are \$691,419.

Highways - The expected increase in truck traffic on area highways that would result from branchline abandonment is listed in Table M-7. Increases of average daily truck traffic over existing levels range from 5.0 percent to 5.3 percent. The annual estimated highway impact cost of \$3,770,644 is attributed to the increased truck traffic.

TABLE M-7
AREA HIGHWAY IMPACT ESTIMATES
Whitehall to Alder

HIGHWAY	SECTION	MILEAGE	AVERAGE DAILY TRUCK TRAFFIC		
			EXISTING	INCREASE	% INCREASE
FAP-29	Alder-Sheridan	11	117	6.2	5.3
FAP-29	Sheridan-Jct/FAP-55	23	125	6.2	5.0
FAP-55	Jct/FAP-29-				
	Whitehall	12	125	6.2	5.0

Total Estimated Annual Highway Impact Cost: \$3,770,644

SOURCE: Montana Department of Highways

Montana Department of Commerce

Alternatives Evaluated

Rehabilitation and acquisition/rehabilitation alternatives have been evaluated for this line. The results of this economic analysis are shown in Tables M-8 and M-9.

Rehabilitation - The project cost of this alternative is approximately \$2.4 million. Annual on-branch operating costs are \$0.7 million, and the annual off-branch operating costs associated with the off-branch movement of machinery and fertilizer are \$4,299. The net present value of costs is \$9.1 million. The net present value of benefits is \$40.8 million, the largest component of which is the \$3.7 million annual highway impact cost. The benefit/cost ratio is 4.22, and the net present value is \$25.6 million.

Acquisition/Rehabilitation - This project would cost \$3.1 million to implement. The net present value of costs is \$9.7 million, and the net present value of benefits is \$34.0 million, resulting in a benefit/cost ratio of 3.96. The net present value of \$25.4 million is smaller than the net present value of the rehabilitation alternative due to acquisition costs.

Conclusions

The key industry on this line is the talc mining and crushing operation at Alder. Rail service is very important to the operations at Alder, as approximately 97% of the talc moved out of the area is shipped by rail. Loss of rail service on this branchline would require complete reliance upon truck transport which would increase transportation costs unless the Cyprus Co. successfully negotiates a lower freight rate with the BNRR at Three Forks. These negotiations are in progress. As previously mentioned, relocation of the crushing facility to Three Forks would cost the Cyprus Co. an additional \$2.0

TABLE M-8
DISTRIBUTION OF BENEFITS OF ALTERNATIVE PROJECTS
Whitehall to Alder

<u>TYPE</u>	<u>DESCRIPTION</u>	<u>BENEFIT</u>
<u>Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -733,774
	Annual Cost Savings Off-Branch	-4,299
Truck/User	Annual Line Haul Cost, Handling Cost and Capital Investment Cost	669,607
Other	Net Salvage Value of Rehabilitation Materials	644,607
	Annual Highway Impact Cost	3,770,644
<u>Acquisition/Rehabilitation Alternative</u>		
Railroad	Annual Cost Savings On-Branch	\$ -733,774
	Annual Cost Savings Off-Branch	-4,299
Truck/User	Annual Line Haul Cost, Handling Cost and Capital Investment Cost	669,607
Other	Acquisition Cost (Land and Materials)	-649,420
	Annual Highway Impact Cost	3,770,644
	Net Salvage Value of Rehabilitation Materials	644,607
	Liquidation Benefits	649,420

NOTE: Negative Value Indicates Disbenefit To Affected Party.

SOURCE: Montana Department of Commerce

TABLE M-9
BENEFIT-COST ANALYSIS OF ALTERNATIVE PROJECTS
Whitehall to Alder

<u>ALTERNATIVE PROJECT</u>	<u>PROJECTED COST</u>	<u>PRESENT VALUE (1)</u>			<u>BENEFIT/</u>
		<u>BENEFIT</u>	<u>COST</u>	<u>NET</u>	<u>COST</u>
			(000 's)		
			.		
Rehabilitation	\$2,474.8	\$33,629.9	\$7,962.5	\$25,667.3	4.22
Acquisition/ Rehabilitation	\$3,124.2	\$34,086.2	\$8,611.8	\$25,474.3	3.96

(1) Discount Rate - 4 Percent
Project Life - 10 Years

SOURCE: Montana Department of Commerce

million. Abandonment of the line would also jeopardize the possibility of an expected increase in chloride production unless the aforementioned rate negotiations are successful. Finally, assuming the Cyprus Co. is able to maintain its operations and load the minerals onto rail cars at Three Forks, abandonment would significantly increase truck traffic on area highways, resulting in an annual estimated impact of \$3.7 million.

A rehabilitation or an acquisition/rehabilitation project would be recommended if the possibility of abandonment becomes likely and if the project compares favorably with other lines analyzed in the report.

Task 8. Final Analysis (Scenario Prioritization)

1. Decision Matrix Criteria Definitions

A. Position in Abandonment Timetable

- * high priority
 - recently abandoned
 - Category III: All lines for which an abandonment application is pending before the ICC.
- * medium priority
 - Category I: All lines which the carrier may seek to abandon within three years.
 - Category II: All lines under study by the carrier which may be subject to future abandonment attempts.
- * low priority
 - Category V: All other lines the carrier owns or operates.

B. Present Revenue Potential

If the line is unprofitable, it is in danger of being considered for abandonment and should be given a high priority.

- * high priority
 - the line is operating at a loss
- * medium priority
 - the line breaks even or produces a small profit
- * low priority
 - the line was profitable several years in a row

C. Future Revenue Potential

If the line is expected to be profitable, it should

remain in Montana's rail system.

- * high priority

- the line is expected to produce profits in successive years.

- * medium priority

- the line is expected to break even or produce a small profit.

- * low priority

- the line is expected to operate at a loss

D. Highway Impact Estimates

The Highway Impact Model was written by the Department of Highways and is used by the Department of Commerce. The model estimates the impact that would result from increased truck traffic. The model requires that the analyst provides: a) the number of truck trips that would be placed on the highway; b) a load factor which reflects the mix of the kinds of trucks being used and their axle loadings; and c) a design 18 KIP factor, which indicates the design standard to which the highway was built.

From these inputs, the model generates an annual impact cost for each section of highway. The resulting dollar figure is a measure of damage; it is a measure of the difference in costs between having and not having the extra trucks on the highway. In other words, placing more trucks on the highway shortens the life of the highway, and this figure is a dollar measure of the lost life of the highway.

Below is listed the lines studied in this analysis and the estimated highway impact which would result from their abandonment.

<u>Line</u>	Estimated Annual Highway Impact Cost
Plentywood to Opheim	\$ 6,452,168
Moccasin to Geraldine	4,701,244
Whitehall to Alder	3,770,644
Scobey to Opheim	2,240,063
North Dakota State Line to Whitetail	2,148,000
Brazil Creek Spur	535,154
Saco to Loring	147,032
Newlon Junction to Richey	139,726
Missoula to Darby	111,424
Dixon to Polson	54,274
Sipple to Lewistown	53,977
Butte to Whitehall	0
Drummond to Philipsburg	0
Phosphate Spur	0

E. Political Considerations

1. Public Interest - Those living in the communities affected by the proposed alternatives voice concerns through elected representatives, local government, directly to the state, or through other channels. If there is a public outcry protesting the loss of rail service, this criterion should be given a high rating.

2. Special Interests - Special interests may represent the railroad industry, community organizations, ranching and farming interests, business interests, and others. If these groups are in favor of acquisition, this criterion should be given a high priority.

3. Local, Regional, and State Governmental Agencies - If the reaction of governmental agencies is favorable, this criterion should be assigned a high priority.

F. Economic Constraints

Ranking of Acquisition Projects.

1. Calculate present value of project benefits (PVB) and costs (PVC).

2. Calculate net present value (NPV) of benefits and costs.
 $NPV = PVB - PVC.$

3. Calculate benefit/cost ratio. $B/C = PVB/PVC.$

4. Place all acquisition projects with B/C greater than one at the top of the list. Rank in descending order of NPV.

5. Place all acquisition projects with B/C less than one at the bottom of the list. Rank in descending order of NPV.

	Benefit/Cost	Net Present
<u>Line</u>	<u>Ratio</u>	<u>Value (000's)</u>
Plentywood to Opheim	3.18	\$ 43,889
Whitehall to Alder	3.96	25,474
Scobey to Opheim	2.38	13,901
North Dakota State Line		
to Whitetail	1.90	11,548
Sipple to Lewistown	1.50	3,592
Saco to Loring	1.00	10
Brazil Creek Spur	0.78	-1,014
Phosphate Spur	0.62	-1,031
Drummond to Philipsburg	0.29	-2,971
Dixon to Polson	0.32	-4,557
Missoula to Darby	0.34	-5,387
Newlon Jct to Richey	0.33	-7,044

G. Alternative Transportation Possibilities

1. Trucks - Generally speaking, trucks and rail cars offer the only means by which shippers can move commodities across Montana. The abandonment of a line could leave the shipper with no alternative than to ship the commodity by truck. In the absence of competition from the railroad, the prices charged by the trucking industry could increase, or it may not be feasible for the shipper to transport the commodity by truck. The greater the potential for such a situation, the higher the priority for acquisition should be.

2. Rail - In some situations, the abandonment of a line may not negatively affect the shipper because he is able to ship the commodity on another nearby line without a significant increase in transportation costs. In such a situation, this criteria should be given a low priority.

H. Other Site - Specific Criteria

1. Socio-Economic Constraints - This criterion addresses the social and economic impact faced by a community under an abandonment scenario. The loss of rail service may weaken a town's economic base or its economic development potential. The effects of an abandonment on the significant users of a line should be considered. Abandonments which would cause adverse socio-economic impacts should be given a high priority.

2. Future Transportation Purposes - Can it be demonstrated that the rail corridor or rail service will be essential to the transportation needs of the state? If so, this criterion should be given a high priority.

3. Any other items germane to evaluating the acquisition potential of the line should be given consideration.

2. Final analysis using the decision matrix.

i

RAIL LINE NAME Brazil Creek Spur

CRITERION

PRIORITY

	1	2	3	4	5	6	7	8
H								
M		1	1			1		
L	1			1	1		1	1
NA								

1. Line not identified for abandonment
2. This line operated at a small loss in 1983.
3. Future revenue potential is assumed to be moderate.
4. If the bentonite were trucked to its final destination in Minnesota highway impacts of \$535,154 would be expected. However, the cost of trucking is high and this impact is not expected.
5. There has been little public expression regarding this line.
6. The acquisition alternative for this line produced a benefit/cost ratio of 0.78 and a net present value of \$-1.014 million.
7. Trucking to the mainline is a feasible option at 1983 traffic levels. The benefit/cost ratio for substitute service is 1.58, and the net present value is \$1.536 million.
8. In recent years this mine has provided little employment, and closure of the mine would have little impact on the area's economy. Significant numbers of jobs have been provided in the past, but it is difficult to predict the demand for bentonite from this area. The line has been removed from Category I status by the railroad.

SCORE 41RATING L

RAIL LINE NAME Butte to Whitehall

CRITERION

PRIORITY

	1	2	3	4	5	6	7	8
H					1			
M	1							1
L				1			1	
NA		X	X			X		

1. Catetory I.
2. This route does not originate or terminate any traffic.
3. The future revenue potential is not expected to change.
4. There are no highway impacts associated with the abandonment of this line.
5. There is a great deal of concern in the Butte area upgrading the future of this line.
6. No benefit/cost analysis was performed for this line because traffic volumes are so low.
7. Interstate 90 provides an east-west transportation corridor for trucks, and traffic to and from the east is routed through Helena.
8. There is a significant amount of local interest regarding this line, and it could provide a passenger corridor if an AMTRAK southern route is restored.

SCORE 54RATING M

RAIL LINE NAME Dixon to Polson

CRITERION									
PRIORITY		1	2	3	4	5	6	7	8
H									
M			1		1				
L	1	1		1		1	1	1	
NA									

1. Not identified for abandonment.
2. The line is profitable.
3. The line is expected to be moderately profitable in the future.
4. Expected highway impacts of \$54,274 resulting from an abandonment are low.
5. Users are concerned about the branchline, but that concern does not seem to be great, possibly because the line is not in danger of abandonment. However, the line could play an important role if the wood products industry increases production.
6. Benefit/cost ratio of acquisition-rehabilitation is 0.32, and the net present value is \$-4.557 million.
7. According to the shipper surveys, users are not particularly dependent upon rail, and trucks are available to move commodities. Overall, increases in transportation costs resulting from loss of rail service would be appear to be significant. An exception to this could be customers - specified rail shipments of lumber and wood products.

8. Abandonment of this line is not expected in the near future; therefore, acquisition is not warranted. It should be noted that the line is important to the area's wood products industry. In addition, the BNRR has agreed to rehabilitate this line, indicating the likelihood of continuing service.

SCORE 37

RATING I

RAIL LINE NAME Drummond to Philipsburg

CRITERION								
PRIORITY	1	2	3	4	5	6	7	8
H					1			
M	1		1					
L				1		1	1	2
NA		NA						

1. Category I
2. NA - The line is out of service.
3. It is possible that mining activity could generate traffic levels sufficient to produce a profit, but such an estimate would be speculative. The major shipper on the line (a wood yard) has closed.
4. Abandonment would have no impact on the highways.
5. A significant amount of concern has been expressed concerning this line.
6. Benefit/cost ratio for acquisition-rehabilitation of the line based on 1976 traffic levels is 0.29, and the net present value is \$-2.971 million.
7. At the present, trucking is a viable alternative to rail as ores were trucked prior to the derailment which put the line out of service. It is possible, however, that a large scale mining operation could generate traffic levels sufficient to provide profitable operation of the branchline. Such traffic levels are not expected in the near future.

8. Former shippers are closed, bankrupt, or presently use trucks. Mining activity in the area exists, but these ores are trucked to East Helena, and this distance of 100 miles is considered to be a short haul by rail. It is not known if future production levels will require the use of rail.

SCORE 45

RATING L

RAIL LINE NAME Missoula to Darby

CRITERION		1	2	3	4	5	6	7	8
PRIORITY									
H		1				1			
M			1	1					1
L	1						1	1	
NA									

1. Not identified for abandonment.
2. This line operated at a slight loss in 1983.
3. This line would produce a profit with a small increase in carloads. An increase in carloadings over the long term is contingent upon an improvement of the production levels in the wood products industry.
4. An abandonment would result in a highway impact cost of \$111,424.
5. Interest in this line is high.
6. Benefit/cost ratio for acquisition-rehabilitation of the line is 0.34, and the net present value is \$-5.387 million.
7. Alternative transportation is available, and the shipper survey reveals active rate competition between trucks.
8. If this line continues to operate at a loss, an abandonment must be expected. The wood products industry is important to the local economy, and loss of rail service could adversely affect customer-specified rail shipment.

SCORE 56RATING M

RAIL LINE NAME Newlon Junction to Richey

CRITERION									
PRIORITY		1	2	3	4	5	6	7	8
H		1	1						
M					1				
L				1		1	1	1	1
NA									

1. Category III.
2. This line operated at a loss in 1983.
3. Traffic levels on this line are expected to decrease, resulting in an operating loss for 1984 and 1985.
4. Area highway impacts of \$139,726 are expected from the line's abandonment.
5. There has not been a great deal of public expression regarding this line.
6. Benefit/cost ratio for acquisition-rehabilitation of this line is 0.33, and the net present value is \$-7.044 million.
7. Users in the area have increasingly relied on trucks to move commodities to stations at Sidney and Circle. The rate spread between 26 and 52 car trains is great enough so that trucking is economical. Grain shippers are trucking to alternate stations for better rates. Truck transportation is available.

8. It is expected that this line will soon be abandoned. Increases in transportation costs to present users is minimal according to the shipper survey. This line is not recommended for acquisition.

SCORE 48

RATING L

RAIL LINE NAME ND State Line to Whitetail

		CRITERION							
PRIORITY		1	2	3	4	5	6	7	8
H				1	1		1		
M						1			
L		1	1					1	1
NA									

- 1. Category V.
- 2. Produced a profit of \$547,859 in 1983.
- 3. Profits can be expected to continue.
- 4. Significant highway impacts of over \$2.1 million annually expected if line is abandoned.
- 5. Little to moderate expression of interest possibly due to the fact that the line is not on the Systems Diagram Map.
- 6. Benefit/cost ratio for acquisition-rehabilitation is 1.90, primarily due to high highway impact estimate. Project cost is high, but so is the net present value.
- 7. Alternative transportation exists. It is a short distance to the elevator on the BNRR Bainville-Opheim branchline.
- 8. This line provides some competition for the BNRR. However, an abandonment is not expected in the near future, as the line is profitable.

SCORE 56

RATING M

RAIL LINE NAME Phosphate Spur

		CRITERION							
PRIORITY		1	2	3	4	5	6	7	8
H		1							
M									
L					1	1		1	2
NA			X	X			X		

1. Recently abandoned.
2. NA
3. NA
4. No highway impacts will result from abandonment.
5. The Cominco Co. has negotiated an agreement regarding the abandonment with the BNRR.
6. NA
7. Truck transportation to loading site at M.P. 1 is a viable alternative.
8. The Cominco Co. and the BNRR have negotiated an agreement regarding this line. Under these circumstances, state intervention is not necessary.

SCORE 40RATING L

RAIL LINE NAME Plentywood to Opheim

CRITERION									
PRIORITY									
	12345678								
H	<table><tr><td></td><td></td><td>1</td><td>1</td><td>2</td><td>1</td><td></td><td>1</td></tr></table>			1	1	2	1		1
		1	1	2	1		1		
M	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								
L	<table><tr><td>1</td><td>1</td><td></td><td></td><td></td><td></td><td>1</td><td></td></tr></table>	1	1					1	
1	1					1			
NA	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								

- 1. Not identified for abandonment.
- 2. This section of the branchline produced a profit in 1983.
- 3. Future revenue potential is good.
- 4. A highway impact cost of \$6.4 million would be expected from an abandonment.
- 5. A great deal of interest has been expressed in this branchline.
- 6. The acquisition-rehabilitation alternative produced a benefit/cost ratio of 3.18 and a net present value of \$43.889 million.
- 7. Truck transportation exists at an increased economic cost, but this cost is not great, as the Soo Line provides some rail competition, and stations on the BNRR mainline offer attractive unit train rates.
- 8. Highway impacts resulting from the abandonment of this section of the branchline are very high. This portion of the line could possibly be operated as a shortline railroad on a break even-basis.

SCORE 69

RATING H

RAIL LINE NAME Saco to Loring

PRIORITY	CRITERION							
	1	2	3	4	5	6	7	8
H	1							
M				1	1	1		
L			1				1	2
NA		X						

1. Recently abandoned. (8/83)
2. NA
3. Future revenue potential is low. Operation on a break-even basis is the best that could reasonably be expected.
4. Annual highway impacts of \$147,032 expected from abandonment of the Saco to Loring section.
5. Local reaction is mixed. Overall impact on former users appears to be low, but some interest in a shortline operation remains.
6. Benefit/cost ratio for acquisition-rehabilitation-shortline operation is 1.00, and net present value is \$10,000.
7. According to the shipper surveys, many producers have purchased trucks for hauling grain. Others hire trucks to move grain. Alternate transportation exists, but at a higher cost to the shipper.

8. For reasons stated in the conclusions of this line analysis, it seems that without a subsidy, a shortline operation would not be a viable alternative. The abandonment apparently has not had a significant detrimental impact on former shippers.

SCORE 48

RATING L

RAIL LINE NAME Scobey to Opheim

CRITERION

PRIORITY

	1	2	3	4	5	6	7	8
H				1	1	1		
M			1				1	
L	1	1						1
NA								

1. Not identified for abandonment.
2. This section of the branchline produced a profit in 1983.
3. The new subterminal at Scobey will probably attract grain that used to move on this section of the branchline.
4. Highway impact resulting from abandonment is estimated at \$2,240,063.
5. Public interest in this line is high.
6. Benefit/cost ratio for acquisition-rehabilitation is 2.38, and the net present value is \$13.901 million.
7. Truck transportation exists but at a greater economic cost.
8. Impact of abandonment on rail users is significant and highway impacts are high, but it is unlikely that this portion of the branchline could be operated as a shortline operation without an operating subsidy, particularly if additional grain is attracted to the subterminal at Scobey.

SCORE 60RATING H

RAIL LINE NAME Sipple to Lewistown

CRITERION									
PRIORITY		1	2	3	4	5	6	7	8
H						1	1		
M			1	1				1	
L		1			1				1
NA									

1. Not identified for abandonment.
2. Present revenue potential is fair.
3. Future revenue potential is fair.
4. Estimated highway impact of \$53,977 is low.
5. Area interest in the future of this line is high.
6. Benefit/cost ratio for rehabilitation-acquisition of this line is 1.50, and the net present value is \$3.592 million.
7. Alternative transportation does exist; but generally speaking, exclusive use of trucks would increase transportation costs.
8. This line is important to the future of the local economy, but abandonment in the near future is not expected.

SCORE 56RATING M

RAIL LINE NAME Whitehall to Alder

CRITERION		1	2	3	4	5	6	7	8
PRIORITY									
H			1	1			1		
M					1			1	1
L	1	1							
NA									

1. Line not identified for abandonment.
2. Present revenue potential is high.
3. Future revenue potential is high.
4. A highway impact cost of \$3,770,644 is expected from abandonment.
5. Public expression of interest in this line is moderate.
6. Benefit/cost ratio for acquisition-rehabilitation of this line is 3.96, and the net present value is \$25.474 million.
7. Alternative transportation is feasible if the Cyprus Co. is able to negotiate lower rates with the BNRR at Three Forks to cover trucking costs.
8. The mining operation is important to the local economy. If the line is abandoned but the Cyprus Co. is successful in its rate negotiations, the mines will continue to operate. However, highway impacts resulting from abandonment are high, and continued operation of the line may be in the state's best interests.

SCORE 63RATING H

3. Ranking of Lines for Acquisition Potential.

<u>Line</u>	<u>Score</u>
Plentywood to Opheim	69
Whitehall to Alder	63
Scobey to Opheim	60
North Dakota State Line to Whitetail	56
Missoula to Darby	56
Sipple to Lewistown	56
Whitehall to Butte	54
Newlon Junction to Richey	48
Saco to Loring	48
Drummond to Philipsburg	45
Brazil Creek Spur	41
Phosphate Spur	40
Dixon to Polson	37

4. Costs of Acquisition and Railbanking

A. Cost of Acquisition - This cost is normally the liquidation value of the track and materials.

B. Cost of Railbanking

1. Administration - This cost is estimated to be \$110 annually per mile of branchline.
2. Weed Control and Right-Of-Way Maintenance - This annual cost is estimated at \$300/mile.
3. Insurance - The cost of insuring buildings would be about \$.20 per \$1,000 of value. Since the state is self-insured, a price on liability insurance is difficult to estimate. The cost of liability insurance should be negligible unless otherwise warranted by a liability claims history.
4. Property Taxes - If the state is the owner of the right-of-way, counties will lose a part of their tax base. The figures used in estimating tax losses for this report are based on a state-wide per mile average.
5. Transportation Easements - This alternative assumes that the landowner adjacent to the right-of-way would have ownership of the right-of-way and the state would purchase a transportation easement from the landowner. The cost of such an easement is unknown. This option would allow the state to forego annual railbanking costs, and would place the right-of-way into the property tax base.

The Cost Of Acquiring And Railbanking The Lines
Analyzed In This Report

<u>Line</u>	<u>Length (Miles)</u>	<u>Acquisition Cost</u>	<u>Annual Railbanking Cost (1)</u>
Brazil Creek Spur	19	\$1,288,331	\$ 40,090
Butte to Whitehall	29	1,182,200	61,190
Dixon to Polson	33	737,386	69,630
Drummond to Philipsburg	26	921,300	54,860
Missoula to Darby	66	1,146,528	139,260
Newlon Junction to Richey	45	821,774	94,950
North Dakota State Line to Whitetail	57	1,142,111	120,270
Phosphate Spur	4	396,671	8,440
Plentywood to Opheim	86	958,000	181,460
Saco to Loring	39	250,500	82,290
Scobey to Opheim	47	563,184	99,170
Sipple to Lewistown	24	1,020,210	50,640
Whitehall to Alder	46	649,420	97,060

(1) This estimate includes administration, weed control and maintenance of right-of-way, and property tax losses. Insurance in most cases would be negligible.

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